



TELEPHONE NUMBER:  
BANK 852 (two lines).

**Established in  
ENGLAND, 1859.]**

Registered as a Newspaper.

Published Weekly at 42 CANNON STREET,  
LONDON, E.C.

TELEGRAPHIC ADDRESS:  
"CHEMICUS CANNON LONDON."

**Established in  
[AUSTRALASIA, 1885.]**

No. 1,699. Vol. LXXXI.

AUGUST 17, 1912.

{ Subscription, 10s. per annum, including Diary.  
Free the world over. Single Copies, 6d. each.  
Winter and Summer Issues, 1s. each. Post Free.

# EVANS

FOR

Drugs, Galenicals, Chemicals, Bacteriological Preparations, &c.

**EVANS SONS LESCHER & WEBB Ltd.,**  
LIVERPOOL LONDON AND NEW YORK.

*See pages iii, iv, v.*

## Mercury.

CORROSIVE SUBLIMATE "M. & B." has by far the largest sale of any Quicksilver preparation manufactured in Great Britain. The many new coal tar and other preparations constantly appearing on the market have failed to oust it from its position as the most effective bactericide known to science.

CALOMEL "M. & B." The unpleasant effects occasionally attending the administration of Calomel have frequently been attributed to the presence of traces of Corrosive Sublimate. MAY AND BAKER's product receives special attention in this respect, and invariably answers tests twice as stringent as those of the Pharmacopœia.

WHITE PRECIPITATE "M. & B." answers the stringent requirements of the German Pharmacopœia—it is free from soluble chlorides and non-volatile impurities. In the powdered form it produces with a minimum of trouble an ointment of uniform smoothness and composition.

Insist on obtaining Mercurials of established reputation and purity. May and Baker's products may be obtained through any wholesale house at prices no dearer than those charged for unbranded preparations.

MAY & BAKER, LTD.,  
BATTERSEA, LONDON, S.W.





# May, Roberts' Traveller.

**THIS CATALOGUE, REVISED TO AUGUST 1912, CONTAINS ALL THE LATEST PRICES AND PARTICULARS OF NEW LINES.**

**ENABLES YOU TO SAVE MONEY AND TROUBLE AND GIVE YOUR CUSTOMERS MORE EFFICIENT SERVICE.**

By simply writing his name and address on a postcard any Pharmacist can obtain information that will save him money and trouble during the next six months.

In exchange for a postcard you will receive a copy of the new edition of May, Roberts' Catalogue, just out and revised to August 1912. If you have older edition destroy it, and write for the new list at once. If you have no old edition there are even more reasons why you should lose no time in obtaining this latest catalogue at once.

## SAVES YOU TIME.

This catalogue contains a list of over 22,000 articles stocked by leading Chemists and Druggists.

It is carefully indexed, so you can obtain any special information you require without loss of time.

## NO DEAD STOCK.

The "something not in stock," which is certain to be asked for by a customer, can be quickly obtained if you have this catalogue at hand. By thus being able to obtain anything at a moment's notice **you need carry no dead stock.**

By issuing and posting free to you ten Supplements annually, May, Roberts keep the catalogue down to date, and you always have early knowledge of new articles placed on the market.

## SAVES YOU MONEY.

For these reasons this catalogue will save you money:—

1. May, Roberts employ no travellers. This means a big saving of expense, and you get the benefit.
2. You pay no carriage charges on goods ordered from May, Roberts except when the order is very small.
3. There is no charge for packing-cases. Neither are you required to return empties.

Is it not worth your while to have this catalogue always handy? Is it not worth your while to write a postcard or letter request **now** and have May, Roberts' **newly revised** Catalogue free by return?

With each copy of the new catalogue is sent a special Illustrated Price List of **PHOTOGRAPHIC GOODS**. The profit on these is large. Make sure of obtaining every possible benefit from these two lists by writing for them now.

**MAY, ROBERTS & CO., Ltd.**

**LONDON: 7, 9 & 11 CLERKENWELL ROAD.  
DUBLIN: 16 WESTMORELAND STREET.**



# Papier Poudre and Poppæa (Regd.) preparations



*The All-British  
Trade Marks.*

## PAPIER POUDRE.

6d. SIZE, 2 in. × 3 in., containing 90 leaves	...	...	3/9	per doz. as heretofore
1/- SIZE, 4 in. × 3 in., do	...	...	7/6	do
6d. SHAVING PADS, do	...	...	3/9	do
NEAT 1/- MIRROR CASES, containing Pads of PAPIER POUDRE	...	...	7/6	do
REFILLS to these MIRROR CASES	...	...	2/-	do
3d. SIZE, 2 in. × 3 in., containing 40 leaves (in limp covers)	...	...	2/-	do
4½d. SIZE (as above-mentioned)	...	...	2/6	do
SMALL SIZE, doubled leaves, for purse or glove	...	...	2/-	do

IN WHITE, ROSE, OR RACHEL TINTS.

## **"POPPÆA" (REGD.) PREPARATIONS.**

"POPPÆA" ROUGE, 6d. and 1/- size  
4/- and 8/- per doz. pads.

"POPPÆA" ROUGE, with Mirror  
12/- per doz.

"POPPÆA" CIRCASSIAN CREAM, in Jars  
and Tubes 7/6 & 24/- per doz. jars.

"POPPÆA" MASSOLINE SKIN FOOD, in  
Jars & Tubes 7/6 & 24/- per doz. jars.

"POPPÆA" CREME POUDRE, in Bottles  
7/6 and 24/- per doz. bottles.

*Papier Poudre Ltd.,*

23 Somerset Street  
London, W.





# SCHOOL OF PHARMACY

## OF THE PHARMACEUTICAL SOCIETY.

The School provides systematic courses of instruction for the Minor and Major Examinations of the Pharmaceutical Society. Both Courses commence on October 2nd, 1912, the Minor Course continuing until the end of June 1913.

Arrangements have been made to admit to Special Shorter Courses Students who can satisfy the Dean that they have already received adequate scientific training.

*Applications for admission to the School, or for any information respecting it, should be addressed to—*

**THE DEAN OF THE SCHOOL (Prof. Greenish, F.I.C.), 17 Bloomsbury Square, W.C.**

## Institute of Chemistry of Great Britain & Ireland.

Founded 1877. Incorporated by Royal Charter, 1885.

INTERMEDIATE and FINAL (A.I.C.) EXAMINATIONS are held each year in January, April and July, except the Final Examination in Biological Chemistry, which is held in October.

"The Regulations for the Admission of Students, Associates, and Fellows." Gratis. Register. Gratis. Examination Papers, 1908-1909, 1910, 1911. 6d. each.

"Official Chemical Appointments." 1912. 2s. net, post free, 2s. 3d.

All communications to be addressed to the REGISTRAR,  
30 Bloomsbury Square, London, W.C.

### PRELIMINARY EXAMINATION for PHARMACEUTICAL STUDENTS

THE College of Preceptors holds Preliminary Examinations in March, June, September, and December. All the Examinations are held in London, Birmingham, Bristol, Cardiff, Edinburgh, Leeds, Liverpool, Manchester, Newcastle-on-Tyne, and Nottingham. For the June and December Examinations there are other Centres, including Blackpool, Brighton, Cheltenham, Croydon, Exeter, Glasgow, Inverurie, Margate, Plymouth, Portsmouth, Sheffield, Southampton, Southport, Sunderland and York. In March there is a Centre at Inverness, and in September at Aberdeen. For Regulations apply to the Secretary, College of Preceptors, Bloomsbury Square, London, W.C.

## CITY of LONDON COLLEGE,

White Street and Ropemaker Street, MOORFIELDS, E.C.

MICHAELMAS TERM commences September 30th.

Classes and Laboratory work in Chemistry, Botany, and Geology. Special preparation for the Examinations of the PHARMACEUTICAL SOCIETY, the Conjoint Board. Complete courses for University of London Examinations. Full particulars gratis on application to

DAVID SAVAGE, Secretary.

# THE SOUTH OF ENGLAND COLLEGE OF PHARMACY

"Concilio et labore"

186 CLAPHAM ROAD, LONDON, S.W.

Principal ... .. H. LUCAS, Ph.C., F.C.S.  
Assistant Masters ... .. H. E. ARCHER, Ph.C., R. N. ASTON, M.P.S.

ALTHOUGH founded so recently as September 1906, the South of England College of Pharmacy has attained, under the principalship of Mr. H. Lucas, a very prominent place in the scheme of pharmaceutical education. Under its present style the college counts a life of scarcely four years, but in one sense it may be considered as a continuation of the old "Metropolitan" of the late Mr. Watson-Will, whose name is still held in kindly recollection by the many students who passed through his hands, and whose abilities as a teacher were held in such high repute. Mr. Lucas was Watson-Will's chief lieutenant, and when the Metropolitan, subsequent to the death of its founder, passed into other hands (it has now passed out of existence), Mr. Lucas launched out independently, and so the South of England came into being. Mr. Lucas has perpetuated many of his old chief's methods, so that, although as time passes modifications and improvements have been introduced, his school may be regarded as a continuance of the older institution which is now no more.—*Press Report, June 1910.*

## EXAMINATION RESULTS!

**THE UNVARNISHED TRUTH!** Since the above Press Report was made, the results of the College Students at the Examinations have been even more satisfactory!

From July 1910—July 1912 122 STUDENTS have been successful in passing their Examinations from this College.

MAJORS, 15 (equalling 93% of those presented). | MINORS, 102 (equalling 82% of presentation).

APOTHECARIES' HALL, 5 (being 83% of presentation).

OVER 50% PASSED AT THEIR FIRST ATTEMPT.

## ARRANGEMENTS FOR FORTHCOMING SESSION!

TUTORIAL CLASSES (for October Examination) commenced August 12th ... .. Fee £5 15 6  
WINTER COURSE (for January and April Examinations) commences September 26th ... ..

Fees £9 9 0 and £17 6 6  
from £1 1 0 per term.

CORRESPONDENCE TUITION ... ..

EVENING COURSES (for Minor and Major) commence October 2nd and extend till ... .. Fees from £1 1 0  
July 1913 ... ..

N.B.—The EVENING MAJOR COURSE at this College is becoming a recognised means of gaining the "Major" Diploma inexpensively (if a little extra time can be arranged for Practical work during two or three mornings each week).

**DURING THE PAST TWO YEARS 16 PRESENTED THEMSELVES FROM THIS CLASS & 15 PASSED.**

For all Particulars, Prospectus, &c., apply THE PRINCIPAL.



# WESTMINSTER COLLEGE

## OF CHEMISTRY, PHARMACY AND BOTANY,

Telephone:—1728 BRIXTON,

402 CLAPHAM ROAD, LONDON, S.W. (One minute's walk from Clapham Road Electric and Railway Station.)

The Oldest Established Private School of Pharmacy in England.

Founded in 1874 by G. S. V. WILLS, Ph.C., &c. (Principal).

This College has the Largest Botanic Garden of any Pharmaceutical School in England, being an acre in extent.



Corner of the Botanic Garden, Westminster College.

More students have passed the Pharmaceutical Examinations from this College since its establishment than from any other School.

At the July Examination 28 Students of this College were successful, viz.:—Major, 1; Minor, 16; Preliminary, 5; Apothecaries' Hall, 6. Only 2 Students failed in the first day's work. This fact alone proves the thoroughness of the education imparted in Practical Chemistry and Dispensing.

The SPECIAL DRILL CLASSES for the October Examination will commence on AUGUST 20th. Fee, £5 5s.

Students desirous of passing the minor in January should enter College on Sept. 10th, Fee, £10 10s.; or October 8th, Fee, £8 8s.

**EXAMINATION RESULTS.**—Over 5,200 Students, including 213 Majors, 4,327 Minors, and 325 Preliminaries, have passed their examinations from THIS COLLEGE since its establishment.

**PASS LIST 1912:**—January, 25; April, 21; July, 28.

N.B.—Students who are in Part-time Situations should purchase a Yearly Ticket, which will admit them into College at all times for a period of 12 months from date of entrance. Price £12 12s.

**EVENING CLASSES.** Fee, 3 months, £1 1s. These Classes are held every Wednesday and Thursday from 6 till 9.

## WILLS'S UNIVERSAL POSTAL SYSTEM.

For the MAJOR, MINOR, PRELIMINARY, APOTHECARIES' HALL, FAIRCHILD, JACOB BELL and all Colonial Pharmaceutical Examinations. Fee £1 1s.

### THE MAJOR EXAMINATION.

This is not a difficult examination, and may be passed by anyone of ordinary ability without leaving business, if he is able to devote one hour daily to study under the guidance of Mr. G. S. V. Wills.

There are two courses as follows:—

**No. 1.—Course A. Fee £1 1s.** This course consists of nearly 100 Lectures on Heat, Light, Electricity, Magnetism, Organic and Inorganic Chemistry, Physics, Botany (Morphology and Physiology), and Materia Medica. As the lessons contain all the information necessary to be studied there is no need to purchase expensive books, thereby saving an immense amount of time and expense.

**No. 2.—Course B. Fee £2 2s.** In addition to Course A there are numerous lessons on Histology, Section Cutting, etc., and all the necessary Microscopical Slides of Stems, Roots, Leaves, Seeds, Fruits, etc., are sent to each pupil.

For Prospectus, Pass List, etc., Call, Write or 'Phone to G. S. V. Wills, 402 Clapham Road, S.W.



# THE LONDON COLLEGE OF PHARMACY.

With which is incorporated THE SOUTH LONDON SCHOOL OF PHARMACY (founded by Dr. Muter in 1868).

**Principals: HENRY WOOTTON, B.Sc. (LOND.), ARTHUR KIRKLAND. Ph.C.**

**SITUATION.**—The College stands on over a third of an acre of land, on high ground and gravel soil, about two minutes' walk from the Clapham Road Station of the Electric Railway, and the S.E. & C. and Brighton Railways. Electric Trams from the London Bridges.

**COLLEGE BUILDINGS** include roomy and completely fitted Chemical, Pharmaceutical, Physical, and Histological Laboratories, Lecture Hall, Major Lecture Room, Museum, Class Rooms, and Photographic Dark Room, lighted throughout by Electricity.

**BOTANIC GARDEN.**—A quarter of an acre of ground is set apart for the cultivation of Medicinal and Herbaceous Plants. Special large beds are stocked with the scheduled plants and plants illustrative of the more important Natural Orders. The Students have access to the Garden at all times during College hours.

**MINOR COURSE.**—LECTURES delivered daily, at 10 a.m. and 3 p.m., on Chemistry, Physics, Botany, Materia Medica, and Pharmacy.  
PRACTICAL WORK in the Chemical, Pharmaceutical, and Physical Laboratories daily, 11 a.m. to 2 p.m.  
TUTORIAL CLASSES at 4 p.m.

**MAJOR COURSE.**—LECTURES delivered daily, at 10 a.m. and 3 p.m., on Chemistry, Light, Heat, Electricity and Magnetism, Botany, and Materia Medica.  
PRACTICAL WORK in the Chemical, Histological, and Physical Laboratories daily, 11 a.m. to 2 p.m.

**COLLEGE OF PRECEPTORS.**—CLASSES held Monday and Thursday evenings, in subjects required for the Medical and Pharmaceutical Preliminaries.

**APOTHECARIES' HALL COURSE.**—LECTURES daily at 10 a.m., Practical Dispensing 3 to 5 p.m.

**TERMS.**—There are three Terms during the Session. The exact date of commencement of the Proximate Term is advertised in the Pharmaceutical Press, or may be obtained on application to the Secretary.  
Summer Term, April to July. Autumn Term, September to Christmas. Spring Term, January to April.

**FEES.**—MINOR.—One Term, 9½ guineas; two Terms, 17 guineas.

MAJOR.—Six months' Course, 12½ guineas; three months' Course, 6½ guineas.

COLLEGE OF PRECEPTORS.—One Term, from 1 Guinea.

APOTHECARIES' HALL.—One term, 5½ guineas; six months' Course, 10 guineas.

**EXAMINATION RESULTS.**—Total passes, 1900 to July 1912, 1,104. This is a larger number than from any other School during the same period. Complete lists of passes published in the School Prospectus.

**PRIZES.**—College Examinations are held at Christmas and Midsummer in the following subjects: Chemistry and Physics, Botany, Materia Medica, Pharmacy and Dispensing. Silver and Bronze Medals and Certificates of Merit are awarded.

**EVENING CLASSES** are held on Monday and Thursday, 7 to 9 p.m. Fees from One Guinea per term of three months.

**APARTMENTS.**—The London College being situated in a pleasant and healthy part of London, apartments in the neighbourhood are plentiful and very reasonable. Students will find no difficulty in obtaining comfortable rooms, or, if desired, a list of addresses will be sent on application to the Secretary.

**BOOKS.**—London College Essentials of Pharmacy, 4/- post free. London College Analytical Tables, 1/6 post free. London College Volumetric Analysis, 1/6 post free. Synopsis of Materia Medica, 1/- post free. London College Map of Habitats, 1/6 post free.

---

*Particulars of Courses, Scale of Fees, Illustrated Prospectus, and Form of Entry may be obtained on application to*  
**THE SECRETARY, LONDON COLLEGE OF CHEMISTRY, 361 Clapham Road, London, S.W.**



# INDEX TO ADVERTISEMENTS IN THIS ISSUE.

The Arabic numerals (1 to 32) in this Index refer to Advertisements in front of the literary pages: the Advertisements following the literary pages are numbered in Roman numerals (i to xxxii)

Page	Page	Page	Page				
Aironal, Ltd. ....	26	Darter, Wilkinson & Co. ....	22	John Strange Winter .....	28	Scholl, C., Mnf. Co. ....	xxiv
Alexandre .....	xxvi	Davis, J., Morgan & Sons .....	xxvii	Josephs, P., & Sons, Ltd. ....		School of Pharmacy .....	2
Allocock's Plasters .....	xiv	Dioptric Association .....	15	Col. Supp. ....		Schutze, F., & Co., Ltd. ....	xxiv
Alliance Drug & Chemical Co. ....	xiii	Edinburgh Central School of .....		Kay Bros., Ltd. ....	xxix	Serubb & Co., Ltd. ....	24
Allison, J. R. B. ....	Col. Supp.	Pharmacy .....	13	Kershaw, H. E., Ltd. ....	x	Senior, A., & Co. ....	x
Apollo Liqueurice Juice .....	x	Educational Institute of .....		Kidston, W. M., & Co. ....	xiv	Sharmon's Patent Syphon .....	
Bailey, W. H., & Son .....	xviii	Scotland .....	15	Lang, Jules & Son .....	xviii	Co., Ltd. ....	xxii
Baker, Parson C. ....	Col. Supp.	Edwards, W., & Son .....	xxvi	Leeds Technical School .....	16	Shirley Bros., Ltd. ....	xxv
Barker's Photo Co. ....	22	Eeles, Walker & Co. ....	24	Levermore, A., & Co., Ltd. ....	xxiv	Singleton & Cole, Ltd. ....	xxv
Barnett & Foster .....	xxi	Eley Bros., Ltd. ....	28	Lewis, H. K. ....	19	Slack, Bernard .....	Col. Supp.
Barnetts Perfumery, Ltd. ....	28	Ellison, H., Ltd. ....	xxv	Liverpool School .....	12	Smith, J. H., & Co. ....	xxviii
Barraclough, J., & Co. ....	xxviii	Evans Sons Lescher & Webb, .....		Lofthouse & Saltmer, Ltd. ....	xxiii	Smith, Maurice .....	xxv
Bath & West of England College ..	xiii	Ltd. ....	Cover, iii, iv, v	London College of Pharmacy ..	4	South of England College ..	2
Beaton, Clark & Co., Ltd. ....	x	Exchange Column .....	Col. Supp.	McAdam & Tuckniss Col. Supp. ....		South Western Polytechnic ..	
Beetham, M., & Son .....	24	Farmer, F., & Co. ....	xxiv	Macfarlan, J. F., & Co. ....	vi	Instituto .....	16
Benzoate of Soda .....	ii	Faulding, F. H., & Co. ....	ix	Maonair, A., & Co. ....	xxv	Southall Bros. & Barclay, Ltd ..	18
Berdoe & Fish .....	Col. Supp.	Fellow's Manfg. Co., Ltd. ....	viii	Maw, S., Son & Sons .....	xxii	Squire & Sons .....	17
Birmingham and Midland .....		Fennings, A. ....	Cover	May & Baker .....		Stolz Electrophone Co., Ltd. ....	21
College .....	10	Fentiman, A. G. ....	xxv	May, Roberts & Co., Ltd. ....	Cover	Strong, Christy .....	xxix
Blythe, W., & Co., Ltd. ....	xxv	Ferris & Co., Ltd. ....	xiv	Millar, A., & Co., Ltd. ....	xxii	Sturge, J. & E., Ltd. ....	vi
Botwright & Grey .....	16	Fink, F., & Co. ....	xxiv	Mitchell, N. W., & Sons, Ltd. ....	xxiii	Swales, T. ....	xxvii
Boulton Macro, Ltd. ....	ix	Fletcher, Fletcher & Co., Ltd. ....		National Dental Hospital .....		Telmo Laboratories .....	24
Bramwell, E., & Son, Ltd. ....	xxvi	Text 290 .....		and College .....	15	Thermogene Co. ....	29
Brett & Co. ....	Col. Supp.	Ford, Shapland & Co. ....	xxix	North British Rubber Co., Ltd. ....	xix	Tomlinson & Hayward, Ltd. ....	
Bristol College .....	10	Fox & Co. (Liverpool), Ltd. ....	xxv	Northern College of Pharmacy ..	10	Text 290 .....	
Bristol-Myers Co. ....	29	Freeman's Chlorodyne .....	22	Nyto Preparations, Ltd. ....	xxvi	Tomlinson, T., & Son Col. Supp. ....	
British Organotherapy Co., .....		Galen Manfg. Co. ....	xxiv	Orridge & Co. ....	Col. Supp.	Trufood, Ltd. ....	xxv
Ltd. ....	xxv	Gardner, W., & Sons .....	xiv	Osborne, Garrett & Co. ....	xxxi	Tye, J., & Son .....	xxiv
Brunner, Mond & Co., Ltd. ....	Cover	Garthwaite, H. ....	xxiv	Papier Poudre, Ltd. ....	1, xxv	Tyrer, T., & Co., Ltd. ....	23
Buchanan, Miss M. E. ....	10	Gladwin, F. H. ....	xxvi	Paragon Press Co. ....	29	University of Birmingham ..	13
Bunchoer & Haseler, Ltd. ....	xxv	Glasgow School .....	12	Parke, Davis & Co. ....	vii	University of Bristol .....	14
Burge, Warren & Ridgley, .....		Goldsmiths' College .....	15	Parkinson, Worswick J. ....	ii	University of Durham .....	15
Ltd. ....	xvi	Goodall, Backhouse & Co. ....	Cover	Pears, A. & F., Ltd. ....	i	University of Edinburgh .....	14
Burgoynne, Burbridges & Co. ....	25	Grant D. ....	xvi	Pettifer, S., & Sons .....	xxvii	University of Liverpool .....	13
Burrough, J., Ltd. ....	Text 290	Grimble & Co. ....	Text 290	Pharmazeutische Industrie ..	xxiv	University of Manchester ..	14
Burroughs Wellcome & Co. ....	30, 31	Halder, E. C. ....	xxiv	Phillips, C. H., Chem. Co. ....	9	Van Abbott, G., & Sons .....	xxiv
Cadbury Bros., Ltd. ....	Cover	Harker, C. R., Staggs & .....		Plucknett, C. J., & Co., Ltd. ....	xxvi	Van Horn & Sawtell .....	xxiv
Camwal, Ltd. ....	xx	Morgan, Ltd. ....	26	Pointet & Girard .....	ix	Viscose Development Co., Ltd. ....	22
Central News, Ltd. ....	29	Harley, T. ....	xxviii	Potter & Clarke, Ltd. ....	xxi	Vittel Water .....	xxii
Chaline & Co., Ltd. ....	xxvi	Hawker, A. E. ....	xxvii	Poths, H., & Co. ....	xix	Wardale & Co. ....	xxv
Charing Cross Hospital Medi- .....		Haywood, J. H., Ltd. ....	xxviii	Prescott & Co. ....	xxv	Warriok Bros. ....	32
cal School .....	16	Hewlett, C. J., & Son, Ltd. ....	ix	Preston's Liverpool Distillery ..	xxii	Washington Chem. Co., Ltd. ....	x
Chemists' Friendly Society .....		Holden, A. E. ....	17	Co., Ltd. ....	xxii	West Surrey Central Dairy ..	
Col. Supp. ....		Hovenden, R., & Sons, Ltd. ....	xxx	Friedhard & Constance (Whole- ..		Co., Ltd. ....	xxiii
Christy, T., & Co. ....	xxvi	Howarth & Fair .....	22	sale), Ltd. ....	xxv	Westminster College .....	3
City of London College .....	2	Hubbuck, T., & Son, Ltd. ....	ii	Primer, J. ....	xxv	Widenmann, Broicher & Co. ....	3
Clark, Cicero S. ....	xxv	Huntley, Boorne & Stevens, .....		Queleh, H. C., & Co. ....	xvii	Wilcox, Jozean, & Co. ....	Text 290
College of Preceptors .....	2	Ltd. ....	28	Royal Dispensary and School ..		Wood, V. ....	xiv
Cook, Geo. ....	Col. Supp.	Inthylol Gesellschaft .....	viii	of Pharmacy of Edinburgh ..	17	Woodward, W., Ltd. ....	ix
Crewe & Co. ....	xxiii	Ingram, J. G., & Son .....	xv	Rubinstein, Helena, Mde. ....	26	Woolf, Lewis .....	xxviii
Crimson Cross Dispensary .....	xxv	Institute of Chemistry .....	2	Rudduck & Co. ....	Col. Supp.	Wrigley's, Ltd. ....	xii
Crown Capsule Co. ....	xxiv	Isaacs, I., & Co. ....	xiv	Sanitas Co., Ltd. ....	Text 290	Wyley's, Ltd. ....	Cover
Cullwick, H. E. ....	xxiv	Jakson, John, & Co. ....	27	Sankev, J., & Sons, Ltd. ....	xxviii	X.L. Rubber Co. ....	xxiv
				Sargol Co. ....	viii	Youldon, E., Ltd. ....	xxix

# THE BUYERS' GUIDE.

In this section, under appropriate headings, are given the names of firms advertising in this or other issues of the month. No charge is made to advertisers for the insertion of their names, but only those who have contracts current for advertising in this journal are mentioned. The headings refer generally to the classes of goods actually advertised, but this is not a detailed Guide such as appears in "The Chemists' and Druggists' Diary." Inquiries addressed to the "Information Department," THE CHEMIST AND DRUGGIST, 42 Cannon Street, London E.C., regarding articles not appearing in these pages receive prompt attention, as shown weekly in the editorial pages.

## ACCOUNT BOOKS

Deansmore Press

## ADVERTISING

Allison, J. R. B.  
Degen, F. A.  
Gladwin, T. H.

## AER WATER MACHINERY

Barnett & Foster  
Flugel & Co.

## WATER MATERIALS

Barnett & Foster  
Bush, W. J., & Co., Ltd.  
Flugel & Co.  
Hay, William, Ltd.  
Stevenson & Howell, Ltd.

## ARATED WATERS

Camwal, Ltd.  
Ildis & Co., Ltd.  
Jewsbury & Brown

## AGENCIES, COLONIAL, &c.

London Commercial Co. for  
Russia, Ltd.  
Peake, Allen & Co.  
United Sales Agency

## AIR CUSHIONS

Burge, Warren & Ridgley, Ltd.  
Surgical Hosiery Co., Ltd.

## ALMOND OIL

Allen, Stafford & Sons, Ltd.

## ALKALOIDS

Boehringer, C. F., & Soehne  
Boehringer, C. H., & Sohn  
Burgoynne, Burbridges & Co.  
Hoffmann-La Roche, Ltd.  
Howards & Sons, Ltd.  
Macfarlan, J. F., & Co.  
Merck, E.  
Morson, T., & Son  
Roques, Ferdinand  
Smith, T. & H., Ltd.  
Zimmermann, C., & Co.

## ALUMINIUM BOXES

Bunchoer & Haseler, Ltd.  
Eley Bros., Ltd.

## ALUMINIUM TOP SYPHONS

Lumley, L., & Co., Ltd.

## AMMONIA AND SALTS

Brunner, Mond & Co., Ltd.  
Serubb & Co., Ltd.  
White, A., & Sons

## ANÆSTHETICS

Duncan, Flockhart & Co.  
Macfarlan, J. F., & Co.  
Riedel, J. D. Co.  
Smith, T. & H., Ltd.  
Zimmermann, C., & Co.

## ANILIN DYES

Crawshaw, E., & Co.

## ANIMAL THERAPY PRODS.

Brady & Martin, Ltd.

## ANNATTO

Fullwood, R. J., & Bland  
Tomlinson & Hayward, Ltd.

## ANTI-RHEUMATIC RINGS

Burge, Warren & Ridgley, Ltd.

## ANTISEPTICS

Lambert Pharmaceutical Co.  
Macfarlan, J. F., & Co.  
Sanitas Co., Ltd.  
Zimmermann, C., & Co.

## ARTIFICIAL LIMBS

Haywood, J. H., Ltd.  
Maw, S., Son & Sons

## ASTHMA REMEDIES

Lofthouse & Saltmer, Ltd.  
Zematone Co.

## AUTOMATIC WEIGHING MACHINES

Southall & Smith

## BACTERIAL VACCINES, &c.

Allen & Hanburys, Ltd.  
Burroughs Wellcome & Co.  
Duncan, Flockhart & Co.  
Evans Sons Lescher & Webb, Ltd.  
Martindale, W.  
Parke, Davis & Co.

## BALSAMS

Dodge & Oloott Co.

## BANDAGES

Dalmas, A. de St., & Co.  
Macfarlan, J. F., & Co.  
Maw, S., Son & Sons  
Wood Vincent

## BATHING CAPS

Maw, S., Son & Sons  
May, Roberts & Co., Ltd.  
Sangers

## BATH CABINETS

Riley Bros., Ltd.

## BATH GLOVES

Solport Bros.

## BED AND DOUCHE PAN

Wileman & Co.

## BEESSWAX

Schliemann's Oil & Ceresine Co.

Sparks, White & Co., Ltd.

## BINOCULARS

Darton, F., & Co.  
Maw, S., Son & Sons  
Raphaels, Ltd.

## BISMUTH SALTS

Alliance Drug & Chem. Co.  
Burgoynne, Burbridges & Co.  
Howards & Sons, Ltd.  
May & Baker, Ltd.  
Morson, T., & Son  
Reitmeyer & Co.  
Tyrer, T., & Co., Ltd.  
White, A., & Sons



**BODY BELTS**

Haywood, J. H., Ltd.  
Schutze, F., & Co., Ltd.  
Wood, Vincent

**BOOKS AND MAGAZINES**

Ilford "Photo Manual"  
Lewis, H. K.  
Martindale's "Extra Phar."  
National School of Salesman-  
ship  
Squire's "Companion"  
Squire's "Hospital Pharma-  
copœias"

**BOTANIC DRUGGISTS**

Brook, Parker & Co., Ltd.  
Newball & Mason  
Potter & Clarke, Ltd.

**BOTTLES, JARS, &c., GLASS**

Barnett & Foster  
Beatson, Clark & Co., Ltd.  
Boling, Brown & Co.  
British and Foreign Bottle Co.  
Bush, Henry W., & Co., Ltd.  
Ferry, T., & Son  
"Ideal" Bottle  
Isaacs, I., & Co.  
Lang, Jules, & Son  
Maw, S., Son & Sons  
Melin, C., & Co.  
"Poisonous" Poison Bottle  
Poths, H., & Co.  
Swales, Thomas  
Youldon, E., Ltd.

**BOXES**

Ford, Shapland & Co.  
Harrison & Waide  
Robinson & Sons, Ltd.  
Rogers & Co.  
Stipendium Stopper Co.

**BOXES, GREASEPROOF**

Rogers & Co.

**BRUSHES**

Bidwell, Bidwell & Co.  
Hovenden, E., & Sons, Ltd.  
Kent, G. B., & Sons, Ltd.  
Maw, S., Son & Sons

**BUNION TOE-SPRING**

Pond, H. J.

**BUTTER COLOURING**

Fullwood, R. J., & Bland  
Oldfield, Pattinson & Co.

**CACHETS**

Warrick Brothers

**CACODYLATES**

Roques, Ferdinand

**CAMPBOR**

Alliance Drug & Chemical Co.  
Howards & Sons, Ltd.  
May & Baker, Ltd.

**CAPS FOR BOTTLES, &c.**

Darter, Wilkinson & Co.  
Smith Bros., & Co.  
Viscose Co. (Self-fixing)

**CAPSULED PILLS**

McKesson & Robbins

**CAPSULES (VARIOUS)**

Allen & Hanburys, Ltd.  
Baiss Bros. & Stevenson, Ltd.  
Betts & Co., Ltd.  
British Drug Houses, Ltd., The  
Crown Capsule Co.  
Davies, Sons & Co.  
Duncan, Flockhart & Co.  
Martindale, W.  
Parke, Davis & Co.  
Tye, J., & Son  
Warrick Bros.  
Wigglesworth & Co.  
Woolley, J., Sons & Co., Ltd.

**CARDAMOMS**

Cardamom Cess Committee

**CASH TILLS**

Millard Bros., Ltd.  
National Cash Register Co., Ltd.

**CASTOR OIL**

Sparks, White & Co., Ltd.  
Varaldi, F.

**CATHETERS**

Warne, Wm., & Co., Ltd.

**CAUSTIC SODA**

Brunner, Mond & Co., Ltd.

**CEMENTS**

Kay Bros., Ltd.  
McCaw, Stevenson & Orr, Ltd.

**CHALK PRECIPITATED**

Levermore, A., & Co., Ltd.  
Mumford, G. S., & Sons  
Nichols Chemical Co., Ltd.  
Sturge, John & E., Ltd.

**CHEMICALS**

Anglo-Continental Chem. Wks.  
Blythe, William & Co., Ltd.  
Boehringer, O. F., & Soehne  
Bramwell, E., & Son  
British Drug Houses Ltd., The  
Brunner, Mond & Co., Ltd.  
Burgoyne, Burdidges & Co.  
Burroughs, Wellcome & Co.  
Corbyn Stacey & Co., Ltd.  
Electrolytic Alkali Co., Ltd.  
Evans Sons Lescher & Webb, Ltd.  
Griffin, John J., & Sons, Ltd.  
Harrington Bros., Ltd.  
Hofmann-La Roche Chem.  
Wks., Ltd.  
Howards & Sons, Ltd.  
Johnson & Sons (Mfg. Oils.)  
May & Baker, Ltd.  
Merck, E.  
Morson, T., & Son  
Pointet & Girard  
Stevenson, H. E., & Co.  
Sturge, John & E., Ltd.  
Tyrer, T., & Co., Ltd.  
Washington Chemical Co., Ltd.  
White, A., & Sons  
Widenmann, Broihner & Co.  
Zimmermann, A. & M.

**CHEWING GUM**

Allen, Samuel, Ltd.  
Wrigley's, Ltd.

**CHLORATES, PERCHLO-  
RATES**

Societe d'Electro-Chimie

**CHLORIDE OF LIME**

Brunner, Mond & Co., Ltd.  
Electrolytic Alkali Co., Ltd.  
United Alkali Co., Ltd.

**CHLORODYNE**

Davenport, J. T., Ltd.  
Freeman's Chlorodyne, Ltd.

**CHLOROFORM**

Alliance Drug & Chem. Co.  
Burroughs Wellcome & Co.  
Bush, W. J., & Co., Ltd.  
Dunoon, Flockhart & Co.  
Macfarlan, J. F., & Co.  
May & Baker, Ltd.  
Morson, T., & Son  
Smith, T. & H., Ltd.

**CIGARS AND CIGARETTES**

Singleton & Cole, Ltd.

**CITRIC ACID AND CITRATES**

British Drug Houses, Ltd., The  
Burgoyne, Burdidges & Co.  
Howards & Sons, Ltd.  
Morson, T., & Son  
Sturge, John & E., Ltd.

**CLINICAL THERMOMETERS**

Burge, Warren & Ridgley, Ltd.  
Maw, S., Son & Sons  
Perken, Son & Co., Ltd.  
Powell, J. T., & Co.  
Raphael's, Ltd.  
Zeal, G. H.

**CLOTH BALLS**

Senior, Alf., & Co.  
Zetts, O'Neil, & Co.

**COAL TAR SPECIALITIES**

Wright, Layman & Umney, Ltd.

**COCKROACH PASTE**

Howarth & Fair

**COCOA**

Cadbury Bros., Ltd.

**COD LIVER OIL**

British Drug Houses, Ltd., The  
Charity, W., & Sons  
Devold Peder  
Evans Sons Lescher & Webb, Ltd.  
Jervell & Co.  
Lorimer Marshall, Ltd.  
Sparks, White & Co., Ltd.  
Wright, Layman & Umney, Ltd.

**COLD CREAM**

Barnetts Perfumery, Ltd.

**COLLAPSIBLE TUBES**

Betts & Co.

**COMBS**

Hovenden, R., & Sons, Ltd.

**COMPLEXION SPECIALITIES**

Rubinstein, Madame H.

**CONDENSERS**

Bennett, Sons & Shears, Ltd.

**CONFECTIONERY COLOURS**

Bush, W. J., & Co., Ltd.

**CONTINENTAL PROPS.**

Wilcox, Jozeau & Co.

**COPPERMITHS**

Braithwaite, H., & Co.

**CORKS**

Mitchell, N. W., & Sons, Ltd.

**CORN EXTERMINATOR**

Gardner

**CORN PLASTERS**

Solport Bros.

**COUNTER ADJUNCTS**

Evans Sons Lescher & Webb, Ltd.

**COUNTER SPECIALITIES**

Allen & Hanburys, Ltd.  
British Drug Houses, Ltd., The  
Hewlett, C. J., & Sons, Ltd.  
Wright, Layman & Umney, Ltd.

**COURT PLASTER**

Pharm. Ind. Ges. Offenbach  
Solport Bros.

**CREOSOTE**

Baiss Bros. & Stevenson, Ltd.  
Burt, Boulton & Haywood, Ltd.  
Morson, T., & Son

**CREPE BANDAGES**

Burge, Warren & Ridgley, Ltd.  
Gimber, W., & Son  
Leslies, Ltd.  
Norwich Crêpe Co. (1856), Ltd.  
Wood, Vincent

**CYANIDES**

May & Baker, Ltd.

**DAIRY SPECIALITIES**

Fullwood, R. J., & Bland  
Oldfield, Pattinson & Co.

**DECOCTIONS, &c., CONCENT**

Wyleys, Ltd.

**DENTAL MECHANICS**

Cullwick, H. E.  
Fentiman, A. G.  
Fentiman, A. J., & Co.  
Garthwaite, H.  
Halder, E. C.  
Wardale & Co.

**DENTAL TOOLS, ETC.**

Pleoknett, O. J., & Co.

**DENTIFRICES**

Beecham, T.  
Bell (John), Hills & Lucas, Ltd.  
Blackie, Robert  
Calvert, F. C., & Co.  
Christy, T., & Co.  
Cook, E., & Co., Ltd.  
Eueryl, Ltd.  
Jewsbury & Brown  
John Strange Winter  
Mason Bros. & Chapman  
Maw, S., Son & Sons  
Newbery, F., & Sons, Ltd.  
Odol Chemical Works  
Parke, Davis & Co.  
Reidel, J. D., & Co.  
Sangers  
Standard Tablet & Pill Co., Ltd.  
Woolley, J., Sons & Co., Ltd.

**DEPILATORY**

Goring, W. J.

**DEVELOPERS (PHOTO)**

Barker's Photo Co.  
Evans Sons Lescher & Webb, Ltd.  
Express Developing Co.  
Griffin, John J., & Sons, Ltd.  
Johnson & Sons (Mfg. Chts.)

**DEXTRINE**

Fink, F., & Co.

**DIABETIC FOODS**

Van Abbot, G., & Sons

**DISINFECTANTS**

Baiss Bros. & Stevenson, Ltd.  
Burt, Boulton & Haywood, Ltd.  
Calvert, F. C., & Co.  
Condy & Mitchell, Ltd.  
Cook, E., & Co., Ltd.  
Ellison, Henry, Ltd.  
Sanitas Co., Ltd.  
Willows, Francis B. & T.  
Wright, Layman & Umney, Ltd.

**DISINTEGRATORS**

Hardy Patent Pick Co., Ltd.

**DRUGGISTS' SUNDRIES**

Ayrton, Saunders & Co., Ltd.  
Barclay & Sons, Ltd.  
Berliner, Arthur  
Burge, Warren & Ridgley, Ltd.  
Bush, H. W., & Co., Ltd.  
Christy & Co.  
Edwards, W., & Son  
Evans Sons Lescher & Webb, Ltd.  
Hovenden, R., & Sons, Ltd.  
Maw, S., Son & Sons  
May, Roberts & Co., Ltd.  
Newbery, F., & Sons, Ltd.  
Poths, H., & Co.  
Quelch, H. C., & Co.  
Renter, R. J.  
Sangers  
Schutze, F., & Co., Ltd.  
Solport Bros.  
Swales, Thomas  
Toogood, W., Ltd.  
Wattenbach, O.  
Woolley, J., Sons & Co., Ltd.

**DRUGS, CRUDE**

Brook, Parker & Co., Ltd.  
Gathergood's Exor.  
Goodhall, Backhouse & Co.  
Parkinson-Worswick, J.  
Potter & Clarke, Ltd.  
Ransom, W., & Son  
Schmitt & Wildenhayn  
Sparks, White & Co., Ltd.

**DYEWARES**

Clemons, Marshall & Carbert

**EAU DE COLOGNE**

Farina, J. M.  
Farina, J. M. (No. 4)  
Flokus, Courtnay & Co.  
McCraeken, J. & R.  
Reuter, R. J.  
Schutze, F., & Co., Ltd.  
Spurway and Cie.

**EDUCATIONAL INSTITS.**

Bath & West of England College  
Birmingham & Midland College  
Buchanan, Margaret E.  
Charing Cross Hosp. School  
City of London College  
College of Preceptors  
Edinburgh Central School  
Educational Institute (Scot-  
land)  
Elt's College  
Fairchild Scholarship  
Glasgow School of Pharmacy  
Goldsmiths' College  
Institute of Chemistry  
Leeds Technical School  
Liverpool School of Pharmacy  
London College of Pharmacy  
National Dental College  
North of England School  
Northern College of Pharmacy  
Royal Dispensary School  
School of Pharmacy  
South of England College  
South-Western Polytechnic  
University of Birmingham  
University of Bristol  
University of Durham  
University of Edinburgh  
University of Liverpool  
University of Manchester  
Westminster College

**EFFERVESCENT PREPS.**

Allen & Hanburys, Ltd.  
Bisshop, Alfred, Ltd.  
Bristol-Myers Co.  
Cupal, Ltd.

**GREENWICH LEMONADE CO.**

Guest, Thos., & Co.  
Lloyd, T. Howard, & Co.  
Wright, Layman & Umney, Ltd.  
Wyleys, Ltd.

**ELASTIC HOSIERY**

Ayrton, Saunders & Co., Ltd.  
Burge, Warren & Ridgley, Ltd.  
Haywood, J. H., Ltd.  
Maw, S., Son & Sons  
Surgical Hosiery Co., Ltd.  
Wood, Vincent

**ELECTRICAL NOVELTIES**

Millard Bros., Ltd.  
Ward & Goldstone

**EMERY AND CLOTH**

Oakey, J., & Son, Ltd.

**EMULSIFIERS**

Bennett, Sons & Shears, Ltd.

Wilkinson, S. W., & Co.

**EMULSIONS, C. L. O., &c.**

Baiss Bros. & Stevenson, Ltd.  
Burgoyne, Burdidges & Co.  
Cupal, Ltd.  
Lorimer Marshall, Ltd.  
Stevenson, H. E., & Co.



**ENEMAS**

Burge, Warren & Ridgley, Ltd.  
Ingram, J. G., & Son  
Maw, S., Son & Sons  
Newbery, F., & Sons, Ltd.  
Warne, W., & Co., Ltd.

**ESSENCES, SOL. AND FRUIT**

Alliance Drug & Chem. Co.  
Barnett & Foster  
Boake Roberts & Co., Ltd.  
Bush, W. J., & Co., Ltd.  
Hay, Wm., Ltd.  
London Essence Co.  
Newball & Mason  
Stevenson & Howell, Ltd.  
Stevenson, H. E., & Co.

**ESSENCES, CONCRETE**

Spurway et Cie.

**ETHERS**

Baiss Bros. & Stevenson, Ltd.  
Duncan, Flockhart & Co.  
Howards & Sons, Ltd.  
Macfarlan, J. F., & Co.  
May & Barker, Ltd.  
Tyrer, T., & Co., Ltd.  
White, A., & Sons

**EUCALYPTUS OIL**

British Drug Houses, Ltd., The

**EXTRACT OF HERBS**

Newball & Mason  
Potter & Clarke, Ltd.

**EXTRACTS (MEDICINAL)**

Allen, Stafford & Sons, Ltd.  
Burrighs, Wellcome & Co.  
Evans Sons Lescher & Webb, Ltd.  
Gathergoods Exor.  
Hewlett, C. J., & Son, Ltd.  
Parke, Davis & Co.  
Ransom, W., & Son

**FACTORY, &C., SITES**

Great Western Railway  
North-Eastern Railway

**FERTILIZERS**

With's Manure Co.

**FILTER PAPER**

Burgoyne, Burbidges & Co.

**FILTERS**

Berkefeld Filter Co., Ltd.

**FLY-CATCHERS**

Alabastine Co. (British), Ltd.  
Barracough, J., & Co.  
Brook, Parker & Co., Ltd.  
Ford, Shapland & Co.  
Frowein, C.  
Kay Bros., Ltd.  
Smith, Jno. H., & Co.  
Strong, Christy  
Tunbridge & Wright

**FOODS, INVALID, ETC.**

Allen & Hanbury's, Ltd.  
Bell (John), Hills & Lucas, Ltd.  
Benger's Food, Ltd.  
Brand & Co., Ltd.  
Burgoyne, Burbidges & Co.  
Cox, Arthur H., & Co., Ltd.  
Deans, Logan & Co., Ltd.  
Fairchild Bros. & Foster  
Horlick's Malted Milk Co.  
"Lemco and Oxo"  
Lofthouse & Saltmer, Ltd.  
Menley & James, Ltd.  
Natural Food Co., Ltd.  
Neave, Josiah R., & Co.  
St. Ivel, Ltd.  
Southall Bros. & Borelay, Ltd.  
Willows, Francis, B. & T.  
Woolley, Jas. Sons & Co., Ltd.

**FULLER'S EARTH**

Mumford, G. S., & Sons

**FUMIGATORS**

Sanitas Co., Ltd.

**GLYCERIN**

Price's Patent Candle Co., Ltd.

**GLYCEROPHOSPHATES**

Merck, E.  
Pointet & Girard  
Reitmeyer & Co.

**GREASE REMOVER**

Perkin & Co., Ltd.

**GRINDERS, DRUG, &C.**

Allen, Stafford & Sons, Ltd.  
Goodall, Backhouse & Co.  
Willows, Francis, B. & T.  
Wright, Layman & Umney, Ltd.

**GRINDERS (MACHINE)**

Hardy Patent Pick Co., Ltd.

**GUMS**

Fink, F., & Co.  
Kidston, W. M., & Co.

**HAIR PREPARATIONS**

Aironal, Ltd.  
Alexandre, L.  
Anglo-Continental Trading Co.  
Blackie, Robert  
Edwards' "Harlene" Co.  
Harrison, G. W.  
John Strange Winter  
Nyto Preps., Ltd.  
Osborne, Garrett & Co.  
Robare's Aureoline  
Saunders, J. Tozeau, Ltd.  
Van Essen, James & Co., Ltd.  
Warner Oliver, Ltd.

**HAIR DYES**

Marker, Stag & Morgan, Ltd.

**HAND-CARTS, &C.**

Crews & Co.

**HAT CLEANERS**

Christy, Thos., & Co.  
Senior, Alf., & Co.

**HAT DYES**

Whitaker & Co.

**HEARING APPARATUS**

Stolz Electrophone Co., Ltd.

**HERBS**

Brook, Parker & Co., Ltd.  
Potter & Clarke, Ltd.  
Ransom, W., & Son

**HOMOEOPATHIC MEDICINES**

Ashton & Parsons, Ltd.  
Keene & Ashwell, Ltd.

**HOT-WATER BOTTLES**

India Rubber, Gutta-percha &  
Telegraph Works Co., Ltd.  
Wood, Vincent

**HOTELS**

Edmond Hotel  
Kingsley Hotel  
Thackeray Hotel

**HYDROGEN PEROXIDE**

May & Baker, Ltd.  
Sanitas Co. Ltd.  
Tyrer, T., & Co., Ltd.

**HYPOPHOSPHITES**

May & Baker, Ltd.  
Tyrer, T., & Co., Ltd.

**ICHTHYOL**

Ichthyol Gesellschaft

**INHALERS**

Oxo Medicated Air Co., Ltd.

**INSECTICIDES**

Christy, T., & Co.  
Nyto Preparations, Ltd.  
Tomlinson & Hayward, Ltd.

**INSECT PENCILS**

Chaline & Co.

**INSECT POWDER**

Danyss Virus, Ltd.  
Keating, Thomas

**INSTEP SUPPORTS**

Pond, H. J.  
Soholl Manfg. Co.

**IRISH MOSS**

Cumming, J. W.

**JUJUBES**

Guest, Thos., & Co.  
Potter & Clarke, Ltd.

**LANOLINE**

Burrighs Wellcome & Co.

**LARD**

Ewen, J., & Sons

**LAVENDER WATER**

Bush, W. J., & Co., Ltd.  
Maddocks & Co.  
Rivers, Hill & Co., Ltd.

**LEATHER BLACK**

Whitaker & Co.

**LECITHIN**

Chem. Works "Victoria"  
Williams, G. M., & Co., Ltd.

**LEMONADE POWDER**

Greenwich Lemonade Co.

**LETTER FILES**

Eeles, Walker & Co.

**LIME JUICE AND CORDIAL**

Evans Sons Lescher & Webb, Ltd.  
Goodall, Backhouse & Co.  
Idris & Co., Ltd.

**LINSEED, CRUSHED, &C.**

Mumford, G. S., & Sons

**LINTS**

Liverpool Lint Co.  
Maw, S., Son & Sons  
Robinson & Sons, L.A.  
Taylor, W. J.  
Vernon & Co., Ltd.

**LIQUORICE JUICE**

Apollo  
Evans Sons Lescher & Webb, Ltd.  
Jackson, E. E.  
Mumford, G. S., & Sons  
Solazzi

**LITHIA SALTS**

British Drug Houses, Ltd., The  
Macfarlan, J. F., & Co.  
May & Baker, Ltd.

**LOOFAHS**

Internl. Sponge Importers, Ltd.  
Solport Bros.  
Swales, Thomas

**LOZENGES**

Ayrton, Sandders & Co., Ltd.  
Guest, Thos., & Co.  
Jackson, E. E.  
Potter & Clarke, Ltd.  
Raines & Co.  
Standard Tablet & Pill Co., Ltd.  
Warriock Bros.

**MACHINERY, PHARMACAL**

Allen & Hanbury's, Ltd.  
Bennett, Sons & Shears, Ltd.  
Comet Chemical Co., Ltd.  
Gardner, Wm., & Sons, Ltd.  
Hardy Patent Pick Co., Ltd.  
Lister, R. A., & Co., Ltd.  
Findar, J. W., & Co.  
Stokes, F. J., Machine Co.  
Wilkinson, S. W., & Co.

**MAGNESIA AND ITS PREPS.**

British Drug Houses, Ltd., The  
Corbyn, Stacey & Co., Ltd.  
Henry, T. & W.  
Howards & Sons, Ltd.  
May & Baker, Ltd.  
Phillips, Chas. H., Chem. Co.  
Washington Chemical Co., Ltd.

**MALT EXTRACT & PREPS.**

Boulton, Macro, Ltd.  
British Diamalt Co., Ltd.  
British Drug Houses, Ltd., The  
Burrighs Wellcome & Co.  
Davies, Sons & Co.  
Evans Sons Lescher & Webb, Ltd.  
Paine & Co., Ltd.

**MANICURE CASES**

Hovenden, R., & Sons, Ltd.

**MARKING INK**

John Bond ("Crystal Palace")

**MEAT EXTRACTS**

Armour & Co., Ltd.  
Brand & Co., Ltd.  
"Lemco and Oxo"  
Tooth's Extract of Meat Co.

**MERCURIALS**

Alliance Drug & Chem. Co.  
Howards & Sons, Ltd.  
May & Baker, Ltd.  
Tyrer, T., & Co., Ltd.

**METAL GOODS**

Betts & Co., Ltd.  
Eley Bros., Ltd.

**METHYLATED SPIRIT**

Burrighs, J., Ltd.  
Macnair, A. & Co.  
Preston's Liverpool Distillery  
Randall & Son, Ltd.

**MICROSCOPES**

Rapahel's, Ltd.

**MILK POWDER**

Trufood, Ltd.

West Surrey Central Dairy Co.

**MINERAL WATERS, SALTS**

Apollinaris Co., Ltd.  
Hughes, E., Griffiths  
Ingram & Royle, Ltd.  
Viohy (State Springs)  
Vittel

**MIXERS AND SIFTERS**

Comet Chemical Co., Ltd.  
Gardner, Wm. & Sons (Gloucester), Ltd.

**MUSTARD PLASTER**

Rueff, Julius

**NIGHT-LIGHTS**

Prescott & Co.

**OILS, ESSENTIAL**

Allen, Stafford & Sons, Ltd.  
Alliance Drug & Chemical Co.  
Boake, A., Roberts & Co., Ltd.  
Bns, W. J., & Co., Ltd.  
Dodge & Olcott Co.  
Evans Sons Lescher & Webb, Ltd.  
London Essence Co.  
Poppelreuter, W.  
Ransom, W., & Son  
Schimmel & Co.  
Spurway & Cie  
Stevenson & Howell, Ltd.  
Varaldi, F.  
Wright, Layman & Umney, Ltd.  
Zimmermann, Chas., & Co.

**OILS, MINERAL, FATTY**

Allen, Stafford & Sons, Ltd.  
Price's Patent Candle Co.  
Schliemann's Oil & Ceresine Co.  
Stern Sonneborn Oil Co., Ltd.

**OINTMENTS**

Blackie, Robert  
Burgess, E.  
Calvert, F. C., & Co.  
Cartwright, W. B., Ltd.  
Cox, Arthur H., & Co.  
Oldfield, Pattinson & Co.  
Peat Products (Sphagnol), Ltd.  
Smith, Maurice  
Zimmermann, Chas., & Co.

**OLIVE OIL**

Goodall, Backhouse & Co.  
Sparks, White & Co., Ltd.  
Varaldi, F.

**OPTICAL GOODS**

Anglo-American Optical Co.  
Botwright & Grey  
Darton, F., & Co.  
Maw, S., Son & Sons  
Nitsche & Gunther Opt. Co., Ltd.  
Raphael's, Ltd.

**OPTICAL TUITION**

British Optical Institute, Ltd.  
Dioptric Association  
Spectacle Makers' Company

**ORANGE QUININE WINE**

Hobson, Joseph, & Son  
Melrose-Drover Co., Ltd.  
Millar, A., & Co., Ltd.  
Robinson, B., & Co., Ltd.

**ORGANOTHERAPY PRODUCTS**

British Organotherapy Co., Ltd.

**OTTO OF ROSE**

Spurway & Cie

**OTTO OF ROSE (SYNTH.)**

Bush, W. J., & Co., Ltd.  
Kerfoot, Thos., & Co.  
Wright, Layman & Umney, Ltd.

**PACKED GOODS**

Allen & Hanbury's, Ltd.  
Baiss Bros. & Stevenson, Ltd.  
Blackie, Robert  
Boulton Macro, Ltd.  
Brook, Parker & Co., Ltd.  
Cox, Arthur H., & Co., Ltd.  
Christy, Thos., & Co.  
Cupal, Ltd.  
Davies, Sons & Co.  
Evans Sons Lescher & Webb, Ltd.  
Goodall, Backhouse & Co.  
Harker, C. R., Stag & Morgan  
Lorimer Marshall, Ltd.  
May, Roberts & Co., Ltd.  
Newball & Mason  
Oldfield, Pattinson & Co.  
Potter & Clarke, Ltd.  
Sangers  
Standard Tablet & Pill Co., Ltd.

**PALATINOIDS**

Oppenheimer, Son & Co., Ltd.

**PAPER HANDKERCHIEFS**

Powell, J. T., & Co.

**PASTILLES**

Allen & Hanbury's, Ltd.  
Asche, C. F., & Co.  
Burrighs Wellcome & Co.  
Evans Sons Lescher & Webb, Ltd.  
Taverner & Sons, Ltd.  
Valda Pastilles  
Warriock Bros.

**PATENT AGENT**

Barker, R. W.

**PEPPERMINT OIL**

Bing, M. & A. C.

Bush, W. J., & Co., Ltd.

Dodge & Olcott Co.

**PERFUME MATERIALS**

Boehringer, C. F., & Soehnle  
Bush, W. J., & Co., Ltd.  
Delvendahl & Kuentzel  
Kerfoot, T., & Co.  
Naef, M., & Co., Succrs.  
Schimmel & Co.  
Schwarz, A. W.  
Spurway & Cie.  
Varaldi, F.  
Wright, Layman & Umney, Ltd.  
Zimmermann, C., & Co.

**PERFUMES**

Allen & Hanburys, Ltd.  
 Bais Bros. & Stevenson, Ltd.  
 Jarnetts Perfumery, Ltd.  
 Bronnley, H., & Co., Ltd.  
 Bush, W. J., & Co., Ltd.  
 Christy, T., & Co.  
 Crown Perfumery Co.  
 Erasmo Co., Ltd.  
 Evans Sons Lescher & Webb, Ltd.  
 Gambles, J. C., & Co.  
 Haliford Co.  
 John Strange Winter  
 Kerfoot, T., & Co.  
 Lescol Perfumery Co.  
 McCracken, J. & R.  
 Priohard & Constance, Ltd.  
 Queloh, H. C., & Co.  
 Rivers, Hill & Co., Ltd.  
 Warriek Bros.  
 West, T., & Son  
 Wolff, F., & Sohn

**PESSARIES (SOLUBLE)**

Burge, Warren & Ridgley, Ltd.  
 Rendell, W. J.

**PETROLEUM JELLY**

Chesebrough Manfg. Co.  
 Gardner & Andrew  
 Schliemann's Oil & Ceresine Co.  
 Stern, Sonneborn Oil Co., Ltd.

**PHOTO. CHEMICALS**

Boehringer, C. F., & Soehne  
 Griffin, John J., & Sons, Ltd.  
 Johnson & Sons (Mfg. Chts.), Ltd.  
 Reitmeyer & Co.

**PHOTO. GOODS**

Ayrton, Saunders & Co., Ltd.  
 Barclay & Sons, Ltd.  
 Burroughs Wellcome & Co.  
 Evans Sons Lescher & Webb, Ltd.  
 Express Developing Co.  
 Ilford Ltd.  
 Kent, G. B., & Sons, Ltd.  
 Lennon, Ltd.  
 May, Roberts & Co., Ltd.  
 Newbery, F., & Sons, Ltd.  
 Rajar, Ltd.

**PHOTO. POSTCARDS, ETC.**

Rajar, Ltd.

**PILL MAKERS**

Cox, A. H., & Co., Ltd.  
 Davies, Sons & Co.  
 Standard Tablet & Pill Co., Ltd.

**PLASTERS**

Alcock Manfg. Co.  
 Berliner, Arthur  
 Dalmas, A. de St., & Co.  
 Galen Manfg. Co., Ltd.  
 Leslies, Ltd.

**PLATE POWDER**

Lees, A., & Co.

**PLEATED PAPER**

Darter, Wilkinson & Co.  
 Smith Bros. & Co.

**POLISHES (VARIOUS)**

Bradley & Bourdas  
 Oakley, J., & Sons, Ltd.

**POSTAL BOXES**

Eeles, Walker & Co.  
 Robinson & Sons, Ltd.

**POWDER PAPER**

Priohard & Constance, Ltd.

**PRESS CUTTINGS**

Central News

**PRINTERS**

Clyde Press  
 Ford, Shapland & Co.  
 Harrison & Walde  
 Suttley & Silverlock, Ltd.  
 Townsend, J., & Sons

**PRINTING PRESS**

Excelsior Printers' Supply Co.  
 Paragon Press Co.

**PROPRIETARY ARTICLES**

Anglo-American Pharm. Co.  
 Anglo Indian Drug & Chem. Co.  
 Arnfield, J. C., & Sons, Ltd.  
 Ashton & Parsons, Ltd.  
 Barclay & Sons, Ltd.  
 Beecham, T.  
 Bow's Liniment, Ltd.  
 British Drug Houses, Ltd., The  
 Burgess, E.  
 Cadinol Co.  
 Carnick, G. W., Co.

**PROPRIETARY ART.—cont.**

Chameleon Oil Co., Ltd.  
 Christy, T., & Co.  
 Coleman & Co., Ltd.  
 Corbyrn, Stacey & Co., Ltd.  
 Crimson Cross Dispensary  
 Cupal, Ltd.  
 Curling, Geo., Wyman & Co.  
 Cyona Co., Ltd.  
 Daisy, Ltd.  
 Davenport, J. T., Ltd.  
 Demuth, R.  
 Dialon Co.  
 Dinnoan, Flockhart & Co.  
 Edwards, W., & Son  
 Evans Sons Lescher & Webb, Ltd.  
 Fandling, F. H., & Co.  
 Fellows' Med. Manfg. Co.  
 Fennings, Alfred  
 Ferris & Co., Ltd.  
 Fox & Co. (Liverpool), Ltd.  
 Freeman's Chlorodyne, Ltd.  
 Fulford, O. E., Ltd.  
 Gambles, J. C., & Co.  
 Goodall, Backhouse & Co.  
 Harrison, Geo. W.  
 Henry, T. & W.  
 Hommel's (Dr.), Hamatogen  
 Hughes, E. Griffiths  
 Iohthyl Gesellschafft  
 International Laboratories  
 Kay Bros., Ltd.  
 Kntnow, S., & Co., Ltd.  
 Lalor's Phosphodyne  
 "Lemco and Oxo"  
 Lofthouse & Saltmer  
 Martindale, W.  
 May, Roberts & Co., Ltd.  
 Mer-Syren (1911), Synd., Ltd.  
 Newbery, F., & Sons, Ltd.  
 Odol Chemical Works  
 Oppenheimer, Son & Co., Ltd.  
 Owbridge, W. T., Ltd.  
 Phillips, Chas. H., Chem. Co.  
 Poultogen Co.  
 Primer, J.  
 Purdue, Ltd.  
 Regnlin Syndicate, Ltd.  
 Reid, E. J., & Co.  
 Resinol Chemical Co.  
 Richter, C., & Co.  
 Riedel, J. D., Co.  
 Rubenstein, Madame H.  
 Rubwel Co.  
 Sangers'  
 Sargol, Ltd.  
 Schimmel & Co.  
 Scott & Bowne, Ltd.  
 Smith, H. Ewbank  
 Smith, Lewis  
 Squire & Sons  
 Standard Tablet & Pill Co., Ltd.  
 Tefras Speciality Co., Ltd.  
 Thermogene Co., Ltd.  
 Thompson & Capper  
 Tunbridge & Wright  
 Ucalites  
 Urillao Syndicate  
 Valda Pastilles  
 Wait-and-See Proprietary  
 Warner, H. H., & Co., Ltd.  
 Warner Oliver, Ltd.  
 Warriek Brothers  
 Waterbury Chemical Co.  
 White, A. J., Ltd.  
 Wilcox, Jozean, & Co.  
 Woodward, W., Ltd.  
 Wright, Layman & Umney, Ltd.  
 Zimmermann, C., & Co.

**PUFFS**

Solport Bros.

**PUMPS**

Berkfeld Filter Co., Ltd.

**QUININE AND SALTS**

Alliance Drug & Chem. Co.  
 Boehringer, O. F., & Soehne  
 Brunswick Quinine Factory  
 Corbyrn, Stacey & Co., Ltd.  
 Howards & Sons, Ltd.  
 Pointet & Girard

**RADIO-ACTIVE MINERALS**

Harrington Bros., Ltd.

**RENNET**

Phillwood & Bland  
 Oldfield, Pattinson & Co.

**RESINS AND RESINOIDS**

Allen, S., & Sons, Ltd.  
 Macfarlan, J. F., & Co.  
 Morson, T., & Son  
 Ransom, W., & Son  
 Smith, T. & H., Ltd.

**RESPIRATORS**

Zimmer & Co.

**RUBBER GOODS**

Berliner, Arthur  
 Burge, Warren & Ridgley, Ltd.  
 Haywood, J. H., Ltd.  
 Ingram, J. G., & Son  
 Maw, S., Son & Sons  
 Surgical Hosiery Co. Ltd.  
 Tompkins, James, Ltd.  
 Warne, W., & Co., Ltd.  
 X. L. Rubber Co.

**RUBBER SPONGES**

Markt & Co. (London), Ltd.

**RUBBER STAMPS**

Riohford, O. D.

**SACCHARIN**

Saccharin Corporation, Ltd.

**SAMPLE CASES**

Keane, Thomas

**SANTONIN**

Smith, B. A., & Co.

**SAPONIN**

Field, C. W.

**SCALE PREPARATIONS**

Morson, T., & Son

**SCIENTIFIC APPARATUS**

Reynolds & Branson, Ltd.  
 Perken, Son & Co., Ltd.

**SEALS ADVERTISING**

Dennis & Ludlam

**SEA SALT**

Tidman & Son, Ltd.

**SEED-DRESSING**

Hawker, Arthur E.

**SERUMS AND ANTITOXINS**

Allen & Hanburys, Ltd.  
 Burroughs Wellcome & Co.  
 Evans Sons Lescher & Webb, Ltd.  
 Farke, Davis & Co.  
 Schimmel & Co.  
 Wilcox, Jozean, & Co.

**SHARES**

McAdam & Tuckniss

**SHEEP DIPS**

Burt, Boulton & Hayward  
 Tomlinson & Hayward, Ltd.

**SHEEP MEDICINES**

Pettifer, Stephen, & Sons

**SHELLAC**

Kershaw, H. E., Ltd.

**SHOP FITTING**

Ayrton-Graham, Ltd.  
 Bowling & Son  
 Cook, George  
 Evans Sons Lescher & Webb, Ltd.  
 Grant, D.  
 Josephs, Philip, & Sons, Ltd.  
 London & Col Manfg. Co.  
 Maw, S., Son & Sons  
 Farnall & Sons, Ltd.  
 Rndduok & Co.  
 Sangers'

**SOAPS, TOILET, &c.**

Allen & Hanburys, Ltd.  
 Armon & Co., Ltd.  
 Bell, John Hills & Lucas, Ltd.  
 Bronnley, H., & Co., Ltd.  
 Calvert, F. C., & Co.  
 Chesebrough Manfg. Co.  
 Christy, Thos., & Co.  
 Cook, E., & Co., Ltd.  
 Erasmo Co. Ltd.  
 Encryl, Ltd.  
 Evans Sons Lescher & Webb, Ltd.  
 Fulford, O. E., Ltd.  
 Gibbs, D. & W., Ltd.  
 Hendrie & Co.  
 Harrison, G. W.  
 Hovenden, R., & Sons, Ltd.  
 John Strange Winter  
 Lescol Perfumery Co.  
 Olival Anglo-Spanish Soap Co.  
 Pears, A. & F., Ltd.  
 Peat Products (Sphagnol), Ltd.  
 Price's Patent Candle Co.  
 Resinol Chemical Co.  
 Sanoper Agency  
 Wolff, F., & Sohn  
 Wright, Layman & Umney, Ltd.

**SHOULDER STRAPS**

Wood, Vincent

**SODA FOUNTAINS**

Flugel & Co.

**SODIUM BICARBONATE**

Brunner, Mond & Co., Ltd.  
 Electrolytic Alkali Co., Ltd.  
 Howards & Sons, Ltd.  
 Mumford, G. S., & Sons

**SOOTHERS**

Butterfield's Pat. Soother Co.  
 Newbery, F., & Sons, Ltd.  
 Schutze, F., & Co., Ltd.  
 Woolf, Lewis

**SPECTACLES**

Botwright & Grey  
 Darton, F., & Co.  
 Maw, S., Son & Sons  
 Nitsche & Gunther Opt. Co., Ltd.  
 Raphael's, Ltd.

**SPICES**

Goodall, Backhouse & Co.

**SPIRIT OF WINE**

Burrough, J., Ltd.  
 Preston's Liverpool Distillery

**SPONGES**

Internl. Sponge Importers, Ltd.

**SPRAYS**

Burge, Warren & Ridgley, Ltd.  
 Hovenden, R., & Sons, Ltd.  
 Maw, S., Son & Sons  
 Parke, Davis & Co.  
 Sangers  
 Toogood, Wm., Ltd.

**SPRINKLER CORKS**

Betts & Co., Ltd.

**SPRUCE BEER**

Hobson, Joseph, & Son

**STARCH**

Mumford, G. S., & Sons

**STILLS**

Bennett, Sons & Shears, Ltd.  
 Brown & Son (Automatic)  
 Stokes, F. J., Machine Co.

**STOPPERS**

Stipendum Stopper Co.

**SUPPOSITORIES**

Peat Products (Sphagnol), Ltd.

**SURGICAL APPLIANCES AND DRESSINGS**

Allen & Hanburys, Ltd.  
 Bailey, W. H., & Son  
 Berliner, Arthur  
 Burroughs Wellcome & Co.  
 Bush, W. H., & Co., Ltd.  
 Dalmas, A. de St., & Co.  
 Davis, John Morgan, & Sons  
 Galen Manfg. Co., Ltd.  
 Gimber, W., & Son  
 Haynes, G., & Co.  
 Haywood, J. H., Ltd.  
 Liverpool Lint Co.  
 Macfarlan, J. F., & Co.  
 Martindale, W.  
 Mason Bros. & Chapman  
 Maw, S., Son & Sons  
 Queloh, H. C., & Co.  
 Reynolds & Branson, Ltd.  
 Robinson & Sons, Ltd.  
 Surgical Hosiery Co., Ltd.  
 Taylor, W. G.  
 Warne, W., & Co., Ltd.  
 Wood, Vincent  
 Woolley, J., Sons & Co., Ltd.

**SWIMMING FLOATS**

May, Roberts & Co., Ltd.  
 Schutze, F., & Co., Ltd.

**SYPHONS**

Barnett & Foster  
 Camwal, Ltd.  
 Idris & Co., Ltd.  
 Sharmar's Pat. Syphon Co., Ltd.

**SYRUPS, MEDICINAL**

Fellows' Med. Manfg. Co.

**TABLE WATERS**

Burrow, W. & J.



**TABLET MACHINERY**

Allen & Hanburys, Ltd.  
Bennett, Sons & Shears, Ltd.  
Thompson & Capper  
Wilkinson, S. W., & Co.

**TABLETS, COMPRESSED**

Allen & Hanburys, Ltd.  
Bishop, Alfred, Ltd.  
British Drug Houses, Ltd., The  
Cartwright, W. B., Ltd.  
Cox, A. H., & Co., Ltd.  
Davies, Sons & Co.  
Duncan Flockhart & Co.  
Evans Sons Lescher & Webb, Ltd.  
Johnson & Sons (Mfg. Chts.)  
Martindale, W.  
Parke, Davis & Co.  
Standard Tablet & Pill Co., Ltd.  
Thompson & Capper  
Wand Manfg. Co.  
Wigglesworth & Co.

**"TABLOID" PRODUCTS**

Burroughs Wellcome & Co.

**TARTARIC ACID**

British Drug Houses, Ltd., The  
Boehringer, C. H., & Sohn

**TEA (TANNIN-LESS)**

Sumner's Typhoo Tea, Ltd.

**TIN BOX MAKERS**

Goodall, Backhouse & Co.  
Huntley, Boorne & Stevens  
Shirley Bros., Ltd.

**TINCTURES, CONCENT**

Stevenson, H. E., & Co.

**TOBACCO**

Singleton & Cole, Ltd.

**TOILET ARTICLES**

Aironal, Ltd.  
Allen & Hanburys, Ltd.  
Anzora Co.  
Armour & Co., Ltd.  
Ayrton, Saunders & Co., Ltd.  
Beetham, M., & Son  
Blackie, Robert  
Bronnley, H., & Co., Ltd.  
Burroughs Wellcome & Co.  
Chesebrough Mnfng. Co.

**TOILET ARTICLES—cont.**

Christy, T., & Co.  
Cook, E., & Co., Ltd.  
Cox, Arthur H., & Co., Ltd.  
Crown Perfumery Co.  
Daisy Ltd.  
Dubois & Co.  
Edwards' Harlene Co.  
Erasmio Co., Ltd.  
Eueryl, Ltd.  
Fulford, C. E., Ltd.  
Gambles, J. C., & Co.  
Gibbs, D. & W., Ltd.  
Haliflor Co.  
Harker, Stagg & Morgan, Ltd.  
Hovenden, R., & Sons, Ltd.  
John Strange Winter  
Lloyd, A., & Co.  
Lloyd, A. S. (Hovenden)  
Lorimer Marshall, Ltd.  
Maw, S., Son & Sons  
May, Roberts & Co., Ltd.  
Newbery, F., & Sons, Ltd.  
Odol Chemical Works  
Osborne, Garrett & Co.  
Papier Pondré, Ltd.  
Parke, Davis & Co.  
Priehard & Constance, Ltd.  
Queleh, H. O., & Co.  
Rowland, A., & Sons  
Rubinstein, Madame H.  
Sangers'  
Saunders, J. Tozeau, Ltd.  
Softe Manfg. Co.  
Solport Bros.  
Standard Tablet & Pill Co., Ltd.  
Telmo Laboratories.  
To-Kalon Mnfz. Co., Ltd.  
Van Essen, James, & Co., Ltd.  
Warner Oliver, Ltd.  
Wholesale Chemical Works  
Woolley, J., Sons & Co., Ltd.

**TOILET PAPER**

Ayrton, Saunders & Co., Ltd.  
Bargoyne, Burbidges & Co.  
Ford, Shapland & Co.  
Manson, R.  
Townsend, J., & Sons

**TOOTH STOPPING**

Stevens, P. A.

**TRADE-MARKS AGENTS**

Barker, R. W.  
Ford, Shapland & Co.

**TURNUED WOOD BOXES**

Rogers & Co.

**TRUSSES**

Bailey, W. H., & Son  
Coles, William, & Co.  
Davis, John Morgan, & Sons  
Haywood, J. H., Ltd.  
Maw, S., Son & Sons  
Schutze, F., & Co., Ltd.  
Wood, Vincent  
Woolley, J., Sons & Co., Ltd.

**TYPEWRITERS**

Yost Typewriter Co., Ltd.

**VACUUM FLASKS**

Millard Bros., Ltd.  
Reuter, R. J.

**VACUUM PANS**

Bennett, Sons & Shears, Ltd.  
Stokes, F. J., Machine Co.

**VALUERS**

Baker, P. O.  
Berdoe & Fish  
Brett & Co.  
Orridge & Co.  
Tomlinson, T., & Son

**VAPORIZERS**

Evans Sons Lescher & Webb, Ltd.  
Sanitas Co., Ltd.

**VASELINE**

Chesebrough Mnfng. Co.

**VERMIN-KILLERS**

Dansys Virus, Ltd.  
Evans Sons Lescher & Webb, Ltd.  
Extermino Chemical Co.  
Farmer, F., & Co.  
Harley, Thomas  
Harrison, G. W.

**VETERINARY INSTRUMENTS**

Mason Bros. & Chapman  
Maw, S., Son & Sons

**VINEGAR**

Grimble & Co.

**VETERINARY REMEDIES**

Chesebrough Mnfng. Co.  
Day & Sons (Crewe), Ltd.  
Dinsley, A.  
Edwards, W., & Son  
Harvey & Co. (Dublin), Ltd.  
Pettifer, Stephen, & Sons  
Senior, Alf., & Co.  
Tomlinson & Hayward, Ltd.  
Wyleys, Ltd.  
Zimmermann, C., & Co.

**WATER STILL**

Stokes, F. J., Machine Co

**WATERS, CONCENTRATED**

Robinson, B., & Co., Ltd.

**WAXES**

Kidston, W. M., & Co.  
Schliemann's Oil & Ceresine

**WEED-KILLERS**

Burt, Boulton & Haywood  
Harrison, G. W.  
Tomlinson & Hayward, Ltd.

**WEIGHING MACHINES**

Maw, S., Son & Sons

**WINDOW BRACKETS**

Ayrton-Graham, Ltd.  
Owen, R.

**WINDOW TICKETS**

Merten, F., & Co.

**WINES**

Burrough, J., Ltd.

**WINES, MEDICATED**

Ayrton, Saunders & Co., Ltd.  
Burrough, J., Ltd.  
Burroughs Wellcome & Co.  
Coleman & Co., Ltd.  
Deans, Logan & Co., Ltd.  
Fletcher, Fletcher & Co.  
Hobson, Joseph, & Son  
Idris & Co., Ltd.  
Robinson R., & Co., Ltd.  
Taylor, Humphrey, & Co., Ltd.

**WRIST STRAPS**

Solport Bros.

**ZINC OXIDE**

Hubbuck, T., & Son, Ltd.  
Stevenson, H. E., & Co.

# "Milk of Magnesia"

(REGISTERED TRADE MARK)

## PHILLIPS'

Is the ORIGINAL and ONLY GENUINE.

**GUARANTEED**

to contain AT LEAST 24 grains of Hydrate  
Magnesia in each fluid ounce.

**IS ENTIRELY FREE**

from OXIDE or CARBONATE of Magnesia  
and any suspensory matter whatever.

*Special quotations for the 2/3 and 1/- sizes from:*

**THE  
Charles H. Phillips Chemical Co.**

**14 HENRIETTA STREET, COVENT GARDEN, W.C.**

*Tel. No.: 3239 Central.*

# ELT'S COLLEGE

(The Bristol College of Pharmacy and Preliminary Examinations).

**The most thorough and up-to-date College for Postal Tuition for Pharmaceutical Students.**

**The College specialises for:**

1. The Country Student.
2. The Student who has failed.
3. The Student with a weak subject.
4. The Young Apprentice.

## Resume of the College Methods:

### Prelim.

University Graduates write all Lessons, correct all Test Papers, write Model Solutions to all Tests, and anticipate with unerring exactness Examiners' Questions.

### Minor.

### Major.

### Apothecaries'

### Hall.

The tuition is essentially practical. The Lessons are written by trained Pharmacists and Graduates of British Universities, and are amply illustrated by Materia Medica specimens, Botanical specimens, Microscopic Slides and Photographic Studies.

Test Papers are added to each Lesson, and answers to these are thoroughly corrected by the College Tutors. Model Solutions to the tests are also sent.

*Students for Prelim., Minor and Apothecaries' Hall receive all Text Books on loan without extra charge.*

Send for a copy of  
**THE LITTLE RED BOOK,**  
stating Exam., and ensure your

## SUCCESS as a PHARMACIST.

THE SECRETARY, 103 Chesterfield Road, Bristol.

## NORTHERN COLLEGE OF PHARMACY

100 & 102 BURLINGTON STREET, MANCHESTER.

(Founded by GEO. CLAYTON, F.C.S., in 1890.)

PRINCIPAL:

E. G. BRYANT, F.C.S., Pharmaceutical Chemist.

This College offers exceptional opportunities for study for the Minor and the Major Examinations. It has been redecorated throughout, and many additions have been made to the apparatus and appliances. All the work is carried out under the immediate supervision of the Principal, and every effort is made to give rapid, thorough, and lasting preparation for the examinations.

The dates for the commencement of the Courses are as follows:

<b>Full Time—4 months</b>	....	<b>Sept. 2</b>
<b>Full Time—3 months</b>	....	<b>Oct. 1</b>
<b>Tuesday &amp; Wednesday</b>	} ....	<b>Sept. 3 &amp; 4</b>
<b>Once-a-week Course</b>		
<b>Evening Course</b>		

PROSPECTUS POSTED TO ANY ADDRESS.

## BIRMINGHAM & MIDLAND

**COLLEGE OF CHEMISTRY,  
PHARMACY AND BOTANY.**

45 NEWHALL STREET, BIRMINGHAM.

Principal—C. L. SCOTT, Pharmaceutical Chemist.

**A short Special Course for the  
October Examination begins on  
August 19th.**

**Next Term begins on October 1st,  
when the Evening Classes resume.**

Full Particulars will be sent on Application.

### Miss MARGARET E. BUCHANAN

(Pharm. Chem. M.P.S., Pharmaceutical Society's Silver Medallist.)

AND

### Miss S. J. HEYWOOD, M.P.S., Ph.C.,

train ladies in Pharmacy. Shorter courses of dispensing, chemistry, and materia medica for those not needing the three-year course, and individual coaching in separate subjects are also available. Apply by letter to

GORDON HALL, GORDON SQUARE, W.C.

PHARMACEUTICAL FORMULAS. (6th Ed.) 10/-, by Post 10/6.  
ART OF DISPENSING. (9th Ed.) 580 pages. 6/-, by Post 6/4.  
VETERINARY COUNTER PRACTICE. (6th Ed.) 4/-, by Post 4/4.  
THE CHEMIST-OPTICIAN. 4/-, by Post 4/3.  
DISEASES AND REMEDIES. (4th Ed.) 3/-, by Post 3/3.  
THE CHEMISTS' MEDICAL DICTIONARY. 2/6, by Post, 2/8.  
THE CHEMISTS' DICTIONARY OF SYNONYMS. 2/6, by Post 2/8.

"THE CHEMIST AND DRUGGIST," 42 CANNON ST., E.C.



# THE BATH & WEST OF ENGLAND COLLEGE OF CHEMISTRY AND PHARMACY.

Principal: *DAVID J. WILLIAMS, F.C.S., Ph.C., Silver Medallist.*

## A Thorough Pharmaceutical Education Guaranteed.

### ECONOMY.

About 40% saving  
in cost of living.

### EFFICIENCY.

Completely equipped Labora-  
tories & systematic Courses.

### INDIVIDUAL ATTENTION.

Continual supervision of Student  
by principal and staff.

### CHEMISTRY, PRACTICAL.

Completely fitted  
laboratories and  
weighing rooms.

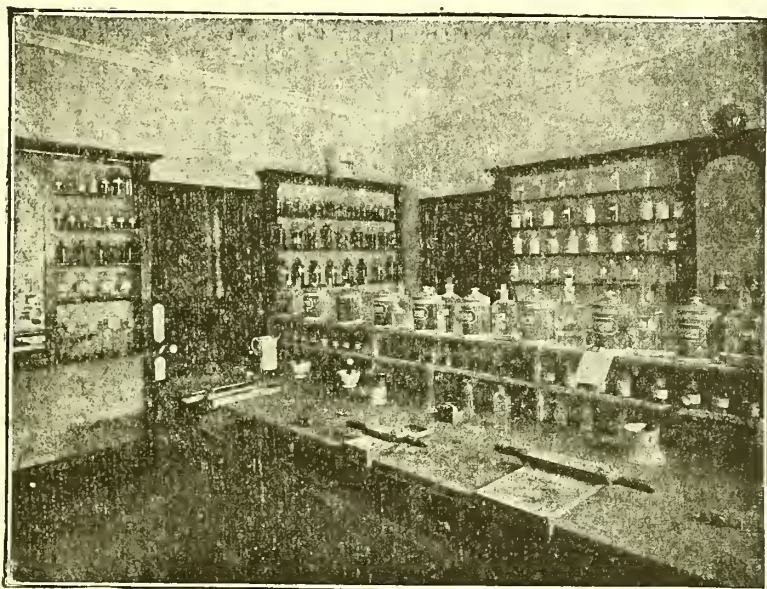
### PHARMACY.

Every facility for  
*practical* educa-  
tion.

### MATERIA

### MEDICA.

Both animal and  
vegetable com-  
plete & exhibited  
in *all* various  
forms.



SECTION OF DISPENSARY.

### CHEMISTRY, THEORETICAL.

Roomy Lecture  
Theatre with  
Experimental  
Counter.

### BOTANY.

Neighbourhood  
unequalled for  
examples. Most  
*official* plants  
grown.

### LATIN.

A large number  
of Autograph  
Prescriptions  
for use.

### DAY CLASSES.

### FUTURE ARRANGEMENTS.

LONG TERM (including month's preparatory)	...	September 2nd	...	...	Fee 9 Guineas.
ORDINARY COURSE	...	October 2nd	...	...	" 8 "
MAJOR COURSE	...	October 2nd	...	...	" 6 1/2 "
APOTHECARIES' HALL COURSE	...	September 2nd and October 2nd	...	...	" 5 "

SPECIAL REVISION COURSE, including extra Evening Practical suitable for advanced students, commences Sept. 2nd.  
EVENING CLASSES commence September 11th.

## UNPARALLELED SUCCESSES.

### MINOR

JULY 1912

**83% PRACTICAL**

AVERAGE  
RESULTS.

**80%**

FOR FIVE  
YEARS.

### MINOR

JULY 1912

**100% THEORY**

Nearly 200 successes in 5 years and on 4 occasions all students have been successful in passing Practical or Theory.  
In April 1911 all students were successful on both days, 80% at first attempt.

### CORRESPONDENCE SECTION.

COMPLETE COURSES FOR THE VARIOUS PHARMACEUTICAL AND SCHOLARSHIP EXAMINATIONS.

Since the foundation of the College five years ago a Student has been successful in winning one of the Fairchild prizes each year.

**SUCH SUCCESSES SPEAK FOR THEMSELVES.**

### SCHOLARSHIP SUCCESSES.

1908	Mr. B. HALL	...	Fairchild Prize
1909	Mr. B. HALL	...	FAIRCHILD SCHOLARSHIP
1910	Mr. C. HUGHES	...	Fairchild Prize
1911	Mr. W. COOPER	...	Fairchild Prize
1912	Mr. W. J. DAVIS	(bracketed 1st place in)	Fairchild Scholarship)

TEN PER CENT. REDUCTION IN COLLEGE FEES TO CORRESPONDENCE STUDENTS ON ENTRANCE.

For illustrated prospectus, apply to **THE SECRETARY, 6 CLEVELAND PLACE EAST, BATH.**

*"ONI HEUIR NI FEDIR."*

# THE LIVERPOOL SCHOOL OF PHARMACY

18 COLQUITT STREET, LIVERPOOL.

Principal: H. HUMPHREYS JONES, Ph.C., F.C.S., Analytical Chemist.

## PERSONAL ATTENTION

is the fundamental principle of the Liverpool School of Pharmacy's organisation. Students are guided and taught personally by the Principal. Their weak points are watched and strengthened, their strong points encouraged.

## CENTRALLY SITUATED

in the very heart of Liverpool, the school is readily accessible from all parts. A penny tram fare reaches practically all the outer suburbs.

## THE FEES

are strictly moderate considering the **Personal Attention** devoted to each individual Student by the Principal.

## WASTE IS ELIMINATED.

There is no useless reading of irrelevant matter, no time lost pondering over problems that under a guiding hand can be instantly and clearly explained, no red tape and no energy wasted. Help is ever ready and always on the spot.

## THE SCHOOL

is perfectly equipped for teaching, containing within itself everything necessary to the Student.

## PRACTICAL WORK

receives special attention, as this forms an essential necessity for the Examination Room besides preparing the future pharmacist to honourably fulfil the responsible duties of his calling with credit.

## ENTHUSIASM IS CREATED,

developed and encouraged; study is made interesting and the drudgery of "grinding" minimised.

Enthusiasm only needs direction to turn it to success, and it is the direction, willingly and cheerfully given, that counts so much in the success attained by students of the LIVERPOOL SCHOOL.

## THE LIVERPOOL CHEMISTS' ASSOCIATION

who first instituted the school about 30 years ago, still appoint yearly a Committee of Education whose function is to visit the School.

Its *Materia Medica* Museum is also open for the use of Students.

## DAY CLASSES.

A.—A Short Course commences August 15th for the October Examination. Fee £4 14 6.

This course consists of revision classes, and is suitable only for those who wish to revise their work previous to examination.

B.—The Full Term for the January Examination commences September 11 and will continue until Christmas.

C.—The January and April Courses will commence the first week in the month, and will continue until the April and July Examinations respectively.

## PART TIME CLASSES.

A.—A Weekly Class for Beginners is held on Wednesdays from 3 to 10 P.M. commencing September 11. Intending Students are advised to commence at the beginning of the Session in September, as these classes are progressive and continuous until July. By so doing, a Student will receive a Full Course of Lectures in all Minor subjects. Students may, however, begin in September, January, or April, or at any other convenient time. These classes are of great advantage as a preliminary to full time classes.

The Wednesday Classes are especially convenient for those who can leave business once a week only, and for those who come by rail from St. Helens, Widnes, Wigan, Chester, Southport, &c., enabling them to obtain a sound foundation in the subjects required while still retaining their situations.

B.—Weekly Classes are held on Tuesdays for Advanced Students, commencing September 10. These are Tutorial Classes only (there are no Lectures delivered) and consequently are only available for those who have undergone a previous course of instruction.

FULL PARTICULARS POST FREE FROM PRINCIPAL.

# GLASGOW SCHOOL OF PHARMACY

180 WEST REGENT STREET.

Principal:

JOHN LOTHIAN, Ph.C.,  
Pharmaceutical Society Medallist.

JULY 1912.

Staff:

MALCOLM M. IRVINE, Ph.C., D.B.O.A.  
JAMES TULLOCH, M.A.  
MARK DAVIS, M.P.S.  
JOHN M'PHAIL, M.P.S.

**RECORD RESULTS—DAY CLASS, THEORY PASS, 100 PER CENT.**

## SUCCESSFUL CANDIDATES:

Miss JOY TAYLOR, Partick.  
JOS. HUNTER, Paisley.

GEO. GIBSON, Dumbarton.  
W. CAMPBELL, Partick.

FRANK ARTHUR, Paisley.  
JOHN MICHIE, Port Gordon.

FIVE PASSED AT THEIR FIRST ATTEMPT.

Summer Session commences 19th AUGUST—A complete revision Course for October Examination.

The Lecture Courses—Day and Evening—commence on 7th OCTOBER, 1912.



# The Royal Dispensary and SCHOOL OF PHARMACY OF EDINBURGH.

Staff:—WILLIAM DUNCAN, Ph.C., F.C.S., Principal.

W. C. MACKENZIE, Ph.C.

E. J. BROWN, Ph.C.

## PASS LIST—1911-1912.

Acharkin, U. J. C., Johannesburg.  
Amos, E. I. T. (Miss), Haddington.  
Barratt, H. G., Burton-on-Trent.  
Bradley, V., West Hartlepool.  
Bromage, E. J., Kidderminster.  
Brown, A. L., Leslie.  
Brown, G. S., Dundee.  
Burrell, A. S. (Miss), Montrose.  
Calder, F., Dundee.  
Campbell, J., Lerwick.  
Cannon, J. L., Barrow-in-Furness.  
Chislett, A. R. J., Lanark.  
Clark, A., Portsoy.  
Cockton, W. H., Wigton.  
Cooper, D. L., Arbroath.  
Corson, R. S., Callander.  
Coupur, D., Dundee.  
Crisp, L. S., Berwick-on-Tweed.  
Croasdell, H. C., Whitehaven.  
Davies, W. J. M., Uttoxeter.  
Dawson, J., Alloa.  
Dobson, V., Durham.  
Donaldson, A., Crieff.  
Ellisson, A. M., Barnsley.  
Ellisson, M., Rotherham.  
Fox, A. D., Dalton-in-Furness.  
Garrie, W., Monifieth.  
Geddes, E. A., Fyvie.  
Gillespie, A. D., Edinburgh.  
Gilroy, M., Haddington.  
Grant, G., Buckie.  
Grant, N. M., Boat of Garten.  
Grant, W., Grantown-on-Spey.  
Gribben, S. A., Southend-on-Sea.

Hamilton, J. R., Edinburgh.  
Hamilton, M., Paisley.  
Hamson, C., Macclesfield.  
Hardy, R., South Shields.  
Harrison, T. L., Hull.  
Hay, R., Cockburnspath.  
Henderson, J. C., Galashiels (major).  
Hill, A. F., Stirling.  
Hodge, H. R. (Miss), Kirkcaldy.  
Hoole, D., Burnley.  
Hoppenstein, S., Edinburgh.  
Howden, W. E., Selby, Yorks.  
Hunter, W. W., Dunfermline.  
Hutcheon, A. B. (Miss), Douglas,  
I. of M.  
Inman, W. C., Edinburgh.  
Jaffray, A. C., Peterhead.  
Jones, J. B., Abardare.  
Kearney, A., Hawick.  
Lamb, T., Warkworth (major).  
Lee, W., Fraserburgh.  
Letbe, E. W., Loudon.  
Levy, F., Middlesboro'.  
Liddell, M. R., Forfar.  
Lister, C., York.  
McCairn, J. K., Edinburgh.  
McFarquhar, W. G., Dingwall.  
Mackie, G., Edinburgh.  
MacPhie, E., Falkirk.  
Manson, D. J., St. Helens.  
Manson, J., Forres (major).  
Manson, J., Edinburgh.  
Meyer, R. W., Trinidad (major).  
Mitchell, W. R., Peterhead.

Munro, J., Upper Largo.  
Nicol, W. M., St. Monans.  
Noble, C. P., Galashiels.  
Noble, C. P., Galashiels (major).  
Ogston, W., Cruden Bay.  
Orr, G., Gatehouse.  
Osborne, J. S. (Miss), Portsoy.  
Overett, W. J., Montrose.  
Priestman, C. H., Stathern.  
Robertson, I. (Miss), Edinburgh.  
Robertson, J., Grangemouth.  
Robson, J. H. F., Wolsingham.  
Ross, B. M., Inverness.  
Sanderson, R. T., Peebles.  
Scott, J. E. H., Hawick.  
Sharp, J. J., Melton Mowbray.  
Simon, J. J., Edinburgh.  
Simpson, A., Alloa.  
Simpson, J., Peterhead.  
Sinclair, J., Wick.  
Slack, H. F., West Bridgford.  
Smith, L., Stockton-on-Tees.  
Smyth, A. S., Galashiels.  
Stenhouse, A. L., Kelso.  
Stevens, E. T. (Miss), Cirencester.  
Taylor, E. S., Carlisle.  
Teunion, M. (Miss), Keith.  
Torrance, J. F. (Miss), Liberton.  
Urquhart, R., Dunfermline.  
Wilkie, J. T., Galashiels.  
Wilson, T., Penicuik.  
Wood, A. M., Grangemouth.  
Young, T., Perth.  
Yule, W. C., Stirling.

The next Session begins on Wednesday, October 2. Evening Classes will begin on Monday September 30, and will be continued on Mondays, Thursdays and Fridays at 8.30 p.m.

Application for Prospectus, &c., to be made to Mr. WILLIAM DUNCAN, Ph.C., F.C.S., The Royal Dispensary, 21 West Richmond St., Edinburgh.

## THE EDINBURGH CENTRAL SCHOOL OF PHARMACY, 26 CLYDE STREET, EDINBURGH.

Principal:—W. BEAVERLY-COWIE, Ph.C., F.C.S.

Assisted by BRUCE McDONALD BRANDER, Ph.C. (Pareira Medallist).

This School was founded in 1895 to provide a Sound Training in the Principles required in the Practice of Pharmacy. Since its inception almost Twelve Hundred of its Students have been successful in the Minor and Major Examinations, and its Alumni are to be found in every part of the British Empire.

Every Modern Facility is afforded for the Study of Chemistry and Chemical Physics, Botany, Materia Medica, and a Steam Plant has been introduced to afford Up-to-date Facilities in the Study of Practical Pharmacy.

**TERMS COMMENCE IN OCTOBER, JANUARY, AND APRIL.**

**FEES: £8 8s. PER TERM (INCLUSIVE).**

Intending Students should apply for Full Particulars to W. BEAVERLY-COWIE, Ph.C., F.C.S., 26 Clyde St., EDINBURGH.

## THE UNIVERSITY OF LIVERPOOL SCHOOL OF PHARMACY.

Complete Courses of Instruction in all the subjects for the Minor and Major Examinations of the Pharmaceutical Society are given in the University.

The Prospectus and further Information may be obtained on application to the Registrar.

## UNIVERSITY OF BIRMINGHAM

Faculties—

SCIENCE, ARTS, MEDICINE, COMMERCE,

SPECIAL SCHOOLS OF LANGUAGES.

DEPARTMENT FOR TRAINING OF TEACHERS.

Schools of

ENGINEERING, METALLURGY, MINING, BREWING, DENTISTRY,  
Leading to Degrees and Diplomas.

\* The Session 1912-13 commences October 1st, 1912.

All Courses and Degrees are open to both Men and Women Students.

In the Medical School Courses of Instruction are arranged to meet the requirements of other Universities and of Licensing Bodies.

Graduates, or persons who have passed Degree Examinations of other Universities, may, after one year's study or research, take a Master's Degree.

Syllabuses, with full information as to Lecture and Laboratory Courses, Fees, Regulations for Degrees, Diplomas, &c., Exhibitions and Scholarships, will be sent on application to the Secretary of the University.

# UNIVERSITY OF EDINBURGH

## SESSION 1912-13.

*Principal*—SIR WILLIAM TURNER, K.C.B., D.C.L., LL.D., D.Sc., M.B.

The WINTER SESSION opens on 8th October, and closes 19th March; the SUMMER SESSION opens on 15th April and closes 27th June.

### FACULTY OF MEDICINE.

*Dean*—PROFESSOR HARVEY LITTLEJOHN, M.A., B.Sc., M.B., C.M.

The Faculty embraces thirteen Chairs and eighteen Lectureships; and attached to these Chairs there are about thirty Assistants and Demonstrators. Instruction is given in all the main branches of Medical Science, viz.:—

#### PROFESSORS.

Chemistry—James Walker, D.Sc., F.R.S.  
 Zoology—J. Cossar Ewart, M.D.  
 Botany—Isaac Bayley Balfour, M.D., D.Sc.  
 Anatomy—Arthur Robinson, M.D., C.M.  
 Physiology—E. A. Schäfer, LL.D.  
 Materia Medica—Sir Thomas R. Fraser, M.D., LL.D.  
 Pathology—William S. Greenfield, M.D.  
 Forensic Medicine—Harvey Littlejohn, M.B., B.Sc.  
 Public Health—O. Hunter Stewart, M.B., D.Sc.  
 Medicine—John Wyllie, M.D., LL.D.  
 Surgery—Alexis Thomson, M.D., C.M., B.Sc.  
 Midwifery—Sir J. Halliday Croom, M.D.  
 Clinical Surgery—Francis Mitchell Caird, M.B., C.M.  
 Clinical Medicine—Sir Thomas R. Fraser, M.D., Wm. S. Greenfield, M.D., and John Wyllie, M.D.

#### UNIVERSITY LECTURERS.

Mental Diseases—George M. Robertson, M.B., C.M.  
 Diseases of the Eye—George Mackay, M.D.  
 Systematic and Clinical Gynaecology—A. H. F. Barbour, M.A., M.D.  
 Clinical Instruction on Diseases of Children—G. H. Melville Dunlop, M.D., and Staff of Royal Hospital for Sick Children.  
 Embryology and Vertebrate Zoology—J. Beard, D.Sc.  
 Anatomy—E. B. Jamieson, M.D.  
 Applied Anatomy—Harold J. Stiles, M.B., C.M.  
 Histology—Harold Pringle, M.D.  
 Physiological Chemistry—W. Cramer, Ph.D., D.Sc.  
 Experimental Physiology—John Tait, M.D., D.Sc.  
 Experimental Pharmacology—W. O. Sillar, M.D., B.Sc.  
 Pathological Bacteriology—W. E. Carnegie Dickson, M.D., B.Sc.  
 Physics—C. G. Knott, M.A., D.Sc.  
 Diseases of the Larynx, Ear, and Nose—A. Logan Turner, M.D.  
 Tropical Diseases—D. G. Marshall (Major, I.M.S.)  
 Medical Entomology and Protozoology—J. H. Ashworth, D.Sc.  
 Tropical Hygiene—J. B. Young, M.B., D.Sc. (conjointly with Professor).  
 Diseases of the Skin—Norman Walker, M.D.  
 Clinical Instruction in Infectious Fevers—Alexander James Claude B. Ker, M.D.  
 History of Medicine—J. D. Comrie, M.A., B.Sc., M.B.  
 Neurology—J. J. Graham Brown, M.D.  
 Practical Anæsthetics—D. C. A. McAllum, M.B. C.M., Demonstrator.

Practical Instruction is afforded, under the superintendence of the Professors, in Laboratories with the necessary appliances, and in Tutorial and Practical Classes connected with the above Chairs, and opportunities are afforded to Students and Graduates to extend their practical knowledge and engage in original research.

Opportunities for Hospital Practice are afforded at the Royal Infirmary, the Hospital for Sick Children, Maternity Hospital, the City Fever Hospital, and the Asylum for the Insane. Upwards of 2,106 beds are available for the Clinical Instruction of Students of the University.

Four Degrees in Medicine and Surgery are conferred by the University of Edinburgh—viz., Bachelor of Medicine (M.B.), Bachelor of Surgery (Ch.B.), Doctor of Medicine (M.D.), and Master of Surgery (Ch.M.); and Diplomas in Special branches of Medical and Surgical Practice may also be conferred on Graduates in Medicine and Surgery of the University.

The minimum Class Fees for M.B. and Ch.B., including Hospital Fee (£12), amount to about £130, and the Matriculation and Examination Fees to £28 7s. An additional Fee of £15 15s. is payable by those who proceed to M.D., and £15 15s. by those who proceed to Ch.M.

The annual value of the Bursaries, Prizes, Scholarships, and Fellowships in the Faculty of Medicine amounts to about £3,600, and that of the other Bursaries, &c., tenable by Students of Medicine, amounts to about £1,820.

Instruction is also given in Public Health, and the Degrees of B.Sc. and D.Sc. in Public Health are conferred by the University.

Residences for Students, Graduates, and others, situated within easy reach of the University, afford excellent board and lodgings on very moderate terms.

A Syllabus and further information as to Matriculation, the Curricula of Study for Degrees, &c., may be obtained from the Dean of the Faculty of Medicine, and for Degrees in the Faculties of Arts, Science, Divinity, Law and Music from the Deans of these Faculties; or from the Clerk of Senatus, and full details are given in the University Calendar, published by James Thin, 55 South Bridge Edinburgh. Price by post 3s. 6d.

The Preliminary and Degree Examination Papers in each of the Faculties are also published by Mr. James Thin—viz., Arts and Science Preliminary Papers and Bursary Papers 1s.; Medical Preliminary Papers, 6d.; Degree Papers—Arts, 1s.; Science 9d.; Divinity, Law, Medicine and Music 1d. each.

By Authority of the Senatus.

July 1912

L. J. GRANT, Secretary of Senatus.

# UNIVERSITY OF BRISTOL.

Prospectuses and full particulars of any of the following will be forwarded on application:—

**FACULTY OF ARTS.** (Including Theology.)

**FACULTY OF SCIENCE.** (Including Agricultural Science.)

**FACULTY OF MEDICINE.** (Medicine and Surgery. Dental Surgery. Public Health.)

**FACULTY OF ENGINEERING.** (Civil, Mechanical, Electrical, and Motor-Car.)

**MILITARY COURSES.**

**SECONDARY TRAINING.**

**ELEMENTARY TRAINING.** (Men. Women.)

**TESTAMUR COURSES.** (Journalism. Social Study.)

**HALLS OF RESIDENCE.**

**ATHLETICS.** The University Athletic Ground is twelve acres in extent, and excellently equipped.

### CHEMICAL DEPARTMENT.

Alfred Capper Pass Professor of Chemistry:—  
 FRANCIS FRANCIS, D.Sc. Victoria, Ph.D. Erlangen, F.I.C.

The NEW CHEMICAL WING was recently built and equipped at a cost of about £35,000. Special provision is made for advanced work and investigations in Physical Chemistry, Agricultural Chemistry, Bio-Chemistry, Bacteriological Chemistry, Hygienic Chemistry, and Electro-Metallurgy. Currents are available of voltages from 500 downwards, and of amperage up to 2,000.

Training received in other Institutions, and Degrees of any approved University are counted towards the period of study required for all British Degrees.

The SESSION in the FACULTIES OF ARTS, SCIENCE, AND MEDICINE will commence on TUESDAY, October 1st, in the FACULTY OF ENGINEERING on TUESDAY, Sept. 17th, 1912.

JAMES RAFTER, Registrar.

# University of Manchester

## SCHOOL OF PHARMACY.

### Courses for the Minor and Major Examinations.

These Courses extend over six or nine months. **Composition Fee:** For six months, £15 15s.; for nine months, £19 19s. Arrangements can also be made under certain conditions for one whole day per week. **The Manchester Scholarship** and the **Fairchild Scholarship** are tenable at this University.

### Degree Courses for Pharmaceutical Students.

Pharmaceutical Students who have passed the Matriculation Examination of the University or its equivalent may now enter for a Degree Course in Science (Ordinary or Honours) concurrently with the Courses for the Minor and Major Examinations. Several **Entrance Scholarships** are open to Students entering on these Courses, and are available for competition on the completion of apprenticeship.

### Post-Graduate Courses

in the Chemistry and Microscopy of Drugs and in Materia Medica and Pharmacology are arranged for the Final Examination of the Institute of Chemistry in branch (e)—The Chemistry of Food and Drugs, &c.

The Session commences October 1, 1912.

For Prospectus apply to the Registrar.



For Fees, &c., apply to the SECRETARY.

# CHARING HOSPITAL MEDICAL SCHOOL.

(UNIVERSITY OF LONDON.)

The Winter Session, 1912-13 will be opened by the Distribution of Prizes to the Students in the Out-Patients' Hall of the Hospital on Wednesday, October 2nd, 1912, at 3.30 p.m. by

**The Right Rev. The Lord Bishop of Peterborough**

The most central and easily accessible of all the Colleges of the University, and situated within four minutes' walk of the University Laboratories (King's College).

Its close proximity to the University Laboratories in King's College enables its Students to obtain the best Scientific Education in their Primary and Intermediate Studies, while still allowing them to use their School Library, Club Rooms, &c., for study and social purposes. The College now possesses unique advantages in this respect. Very complete LABORATORIES and arrangements for all positions of Final Studies.

The Honours of the past year include GOLD MEDALLIST, M.D. UNIVERSITY OF LONDON, THE MURCHISON SCHOLARSHIP in Clinical Medicine open to all recent Graduates in the London Schools and the University of Edinburgh, and THE RABBETH SCHOLARSHIP of the University Laboratories, King's College, for the subjects of the First Examination for the London Degrees.

For Prospectus and full information apply personally or by letter to the Dean.

WILLIAM HUNTER, M.D., F.R.C.P.,  
Medical College, Charing Cross Hospital, London, W.C.

## SOUTH-WESTERN POLYTECHNIC INSTITUTE, MANRESA ROAD, CHELSEA. PHARMACY COURSES.

Evening Classes commence September 23, 1912.

Complete Evening Courses are arranged for the Minor and Major Courses of the Pharmaceutical Society. The classes consist of one hour's lecture followed by two hours' practical work.

### MINOR COURSE.

**Chemistry**, Tuesday, 7.0-10.0. J. B. COLEMAN, A.R.C.S., F.I.C. F.C.S.

**Botany**, Wednesday, 7.0-10.0. H. B. LACY.

**Materia Medica**, Monday 7.0-10.0. H. B. STEVENS, A.I.C. Ph.C., F.C.S.

Fee for each evening, 10s. Fee for the course, 25s.

### MAJOR COURSE.

**Chemistry, General**, Wednesday, 7.0-10.0. J. B. COLEMAN, A.R.C.S., F.I.C., F.C.S.

**Organic**, Friday, 7.0-10.0. F. H. LOWE, M.Sc.

**Botany**, Thursday, 7.0-10.0. H. B. LACY.

**Materia Medica**, Monday, H. B. STEVENS, A.I.C., Ph.C., F.C.S.

Fee for each evening, 10s. Fee for the course, 25s.

Day classes on most of the above subjects are also held; further particulars may be obtained from THE SECRETARY.

Telephone 899 Western.

## Leeds Technical School

### EVENING COURSE FOR CHEMISTS & DRUGGISTS

Commencing September 16, 1912.

SPECIAL CLASSES in CHEMISTRY, BOTANY, MATERIA MEDICA, PHARMACY and DISPENSING, under the general direction of Mr. J. H. GOUGH, Ph.C., for the MINOR EXAMINATION.

Complete preparation in two or three sessions, three evenings weekly.

Evening Course for the Preliminary Examination.

**Special Evening Course for Dispensers.** (Society of Apothecaries).

*Prospectus, with full particulars, post free from*

**JAMES GRAHAM,**

*Secretary.*

Education Department,  
LEEDS.

## LENS MEASURE

FOR MEASURING

Spherical and Cylindrical Lenses.

Price 17/6 each post free.

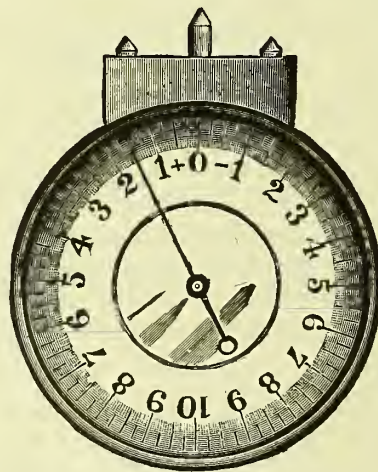


Illustration shows instrument exact size.

Manufactured and Sold by—

**BOTWRIGHT & GREY,**

Spectacle and Eyeglass Makers,

13 & 14 Spencer Street, Clerkenwell,  
LONDON, E.C.



**THE**  
**FAIRCHILD SCHOLARSHIP AND PRIZES**  
**for 1913.**

*Founded by FAIRCHILD BROS. & FOSTER.*

The Syllabus for the 1913 Examination for the Scholarship and Prizes, which was established for competition among students of pharmacy (of either sex) registered in the United Kingdom, will be ready on or about December 1st next.

The primary condition imposed on candidates is that they satisfy the regulation requirements for admission to the qualifying examination, *i.e.*, the Minor Examination in Great Britain, or the Licence Examination in Ireland. The Scholarship is of the value of £50, and there are four prizes of £5 each

No candidate will be admitted to the Examination in 1913 who has not completed twenty years of age, or who exceeds twenty-two, on January 1, 1913.

Applications for copies of the Syllabus should be made to

A. E. HOLDEN, *Secretary to the Trustees,*  
 64/65 Holborn Viaduct, London, E.C.

**PRICE 14s. NET.**

**STUDENT'S PRICE 12s. 6d.; POST FREE, 13s.**

**SQUIRE'S COMPANION.**  
**18th Edition.**

**AN INVALUABLE REFERENCE BOOK FOR THE STUDENT.**

For nearly half a century SQUIRE'S COMPANION has been the book of reference for the STUDENT of PHARMACY. That the 18th Edition fully maintains and even extends its utility in this direction is evidenced by the following extract from one of the many press notices:

*"THE CHEMIST AND DRUGGIST" says:—We should not be surprised to find that the Materia Medica notes will make the COMPANION a still more valuable text-book for STUDENTS of PHARMACY.*

Leaflets descriptive of the volume, containing typical specimen pages and a selection of press notices, post free on application.

**THE 8th EDITION OF**  
**SQUIRE'S PHARMACOPŒIAS OF THE LONDON HOSPITALS,**

Price 5/- net, post free, 5/4.

An invaluable aid at the Dispensing Counter, enabling the Dispenser to interpret the wishes of the Prescriber, and affording an immediate comparison of the formulas of 30 of the principal London Hospitals.

*Descriptive leaflets, press notices and THIRD APPENDIX to SQUIRE'S POCKET COMPANION POST FREE ON APPLICATION.*

**SQUIRE & SONS,**

CHEMISTS ON THE ESTABLISHMENT OF THE KING.  
**413 OXFORD STREET, LONDON, W.**

# **Southalls'**

SEVENTH  
EDITION.



## **Materia**

## **Medica.**

BY

John Barclay,

B.Sc. (Lond.), F.C.S.

*Revised and Enlarged by*  
**ERNEST W. MANN, B.Sc.(Lond.),**

Sometime External Examiner in  
Materia Medica and Pharmacy  
to the University of Birmingham.

NOTE THE OPINION OF A LEADING  
TEACHER IN PHARMACY:

"It is an excellent book, well up to the  
present state of knowledge of medi-  
cinal drugs, and unsurpassed for the  
Medical and Pharmaceutical Student."

---

***Price: Seven Shillings and Sixpence net.***

---

Published by J. & A. CHURCHILL, 7 Marlborough Street, W.

---

# **Southalls'** **Students'** **Requisites.**

Materia Medica Collections.  
Herbaria of Mounted Medicinal Plants.  
Microscopic Slides.  
Microscopes and Lenses.  
Chemical Apparatus.  
Photographic Apparatus.  
Dissecting Instruments.  
Collections of Standard Powders,  
etc., etc.

---

COMPLETE LIST FREE ON APPLICATION.

***Southall Bros. & Barclay, Ltd., BIRMINGHAM.***



**NOW READY  
FIFTEENTH EDITION.**

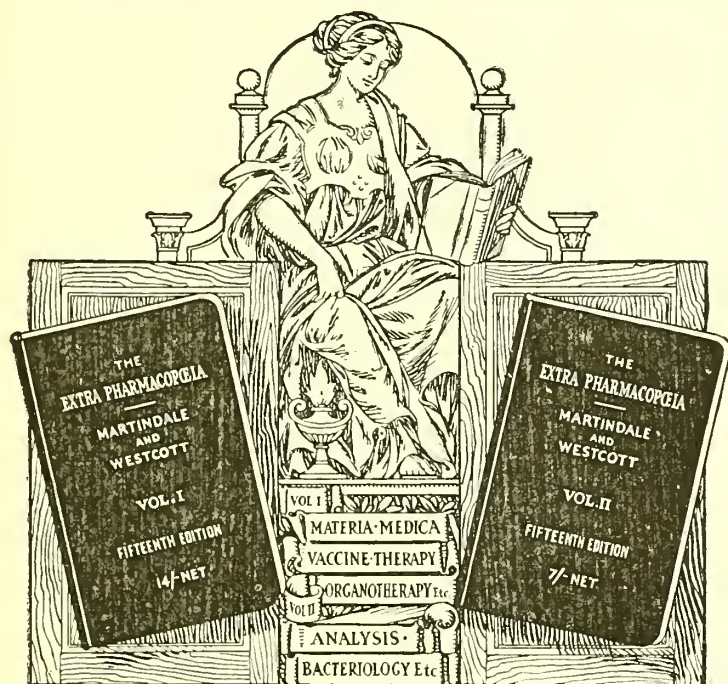
*THE CHEMIST & DRUGGIST* of July 27, 1912, says:

"The revision has been done in a thorough manner, both in regard to the addition of new facts and the bringing up to date previous entries."

# The Extra Pharmacopoeia.

By *MARTINDALE & WESTCOTT.*

*Fifteenth Edition, in 2 vols.*



The subject-matter of the Extra Pharmacopœia since the last edition of this Pharmacist's handy book of reference has grown to so great an extent, that a division into two volumes became necessary.

**Vol. I.** (about 1,100 pages) contains the Extra Pharmacopœial Materia Medica and Therapy, much enlarged; Vaccine Therapy (also increased), Organo-Therapy, Therapeutic Index, Poisons, &c.; also the General Index to the complete work (about 12,000 headings).

The following are a few examples of new features:—"Salvarsan" (the latest knowledge of its uses), Revised Iontophoresis, Radiology, Radium and Thorium Therapy, Infants' and Diabetic Foods, Calorie Values, &c.; New Vaccines (Acne, Diphtheria, Hay Fever, &c.); New Tuberculins, Dose Tables, Sterilisation in Pharmacy, etc.

**Vol. II.** (about 370 pages) is devoted to Analytical, Experimental, Bacteriological work, much of which has been conducted in the Authors' Laboratory—e.g. the following:—

Nutrimenta: Bread, etc., Standardisation, Disinfectants, Assay Methods. Mineral Waters, including a New Table. Action of Acids on Metals. Urine, Blood, Faeces, etc., Examination. Bacteriological and Clinical Notes on Acne, Actinomyces, Cancer, B. Coli Infections, Gonorrhœa, Influenza, Leprosy, Malaria, e.g. Syphilis (Ultramicroscope, and *Sp. Pallida* Staining methods), etc.

## LATEST BRIEF ABSTRACTS AND REFERENCES TO SCIENTIFIC JOURNALS.

Price, complete, in Two Volumes, 21/- net; post, Inland, 4d. extra.

Vol. I., separately, 14/- net; post, 4d. Vol. II., 7/- net; post, 2d.

**London: H. K. LEWIS, 136 GOWER STREET, W.C.**

Also of *W. Martindale, 10 New Cavendish Street, London, W.*

# The Chemist's Compact Library.

MONEY-MAKING AND MONEY-SAVING BOOKS.

EVERY BOOK BY AN EXPERT.

## THE ART OF DISPENSING.

A treatise on the Methods and Processes involved in Compounding Medical Prescriptions, with Dictionaries of Incompatibles and New Remedies, and numerous Memoranda for Dispensers and Prescribers. First Edition 1888; (Ninth Edition), by PETER MACEWAN, F.C.S., Pharmaceutical Chemist, Editor of the "Chemist and Druggist."

Mr. Harold Wyatt, a Member of the Pharmaceutical Society's Board of Examiners for England and Wales, in criticising the Eighth Edition, says:

"After a careful examination of the contents of this revised and enlarged edition from cover to cover, one can only wonder at the mass of highly useful and specialised information the book holds in its 542 pages. To one who has handled the earlier editions from the book's genesis in the C. & D. Diary of 1880, the present volume appears not only fully to maintain the reputation earned by the former editions, but to stand as a monument exemplifying the progress and complexity of modern pharmacy. The essentially practical character of the book is revealed in every paragraph. Taking the volume as a whole it outstrips its predecessors in diversity of contents; it is thoroughly up-to-date."

Price 6s. net, by post 6s. 4d.

## PHARMACEUTICAL FORMULAS.

Being "The Chemist and Druggist's" book of useful recipes for the drug trade. By PETER MACEWAN, Phar. Chem., F.C.S. The first edition of this popular book was published early in 1898 and extended to 662 pages. The present (eighth edition) contains over 1,000 pages. Besides being a formulary the book is a treatise on many of the formulae subjects, and is regarded by chemists and manufacturers as most valuable. It comprises chapters on toilet preparations and specialties, preparations for the hair, dentifrices, perfumes, household and culinary requisites, beverages, antiseptics and disinfectants, horticultural and agricultural preparations, inks, varnishes, confectionery, photographic chemicals and preparations, galenical and medicinal compounds, bacteriological and microscopic reagents, and a Supplementary Chapter containing, besides hundreds of new formulas, a Synoptical Reference List to those printed in the "British Pharmaceutical Codex."

Price 10s., by post 10s. 6d.

## VETERINARY COUNTER PRACTICE.

An indispensable book for chemists, whether urban or rural. It deals with ailments of horses, cattle, sheep, pigs, dogs, and poultry. The chemist's requirements in this regard are solely kept in view, and the book is a real money-maker to those who use it. The new edition (sixth), like its predecessors, is by an experienced M.R.C.V.S., and includes much new matter. Contains over 400 pages.

Price 4s., by post 4s. 4d.

## DISEASES AND REMEDIES.

Chemists and Druggists need to know something about diseases and their treatment, and this book fills the gap between books of domestic medicine and standard works for medical practitioners. A new edition (the fourth) is now ready. It has been brought up to date and enlarged to 228 pages.

Price 3s., by post 3s. 3d.

## THE CHEMIST'S DICTIONARY OF MEDICAL TERMS AND TREATMENT.

This book measures 5½ inches by 3½ inches, and contains over 280 printed pages. There is no medical dictionary so compact which gives so much up-to-date information. It goes straight to the point—which is what chemists most need when they have to answer medical questions asked by customers.

Price 2s. 6d., by post 2s. 8d.

## THE CHEMIST OPTICIAN.

This book is a survey of the theory and practice of visual optics, especially with reference to sight-testing and spectacle fitting. It gives exact details of how to carry on this lucrative side-line, and, being written by a pharmacist-optician expressly for retail chemists, has the proper appreciation of the needs of those in the drug trade. Features of the book are the number of illustrations and the practical points on sight-testing and spectacle adapting.

Price 4s., by post 4s. 3d.

## GUIDE TO PRELIMINARY EXAMINATIONS.

This book, written by WILLIAM DODDS, an experienced teacher, deals with English, Latin, Arithmetic, Algebra, Euclid, French, and German as required in the principal examinations recognised by chemical, medical, and pharmaceutical bodies. Examination papers are quoted and worked out, and the 1905-6 regulations given.

Price 2s. 6d., by post 2s. 9d. New Edition 1912.

## ELEMENTARY DISPENSING PRACTICE.

By the late JOSEPH INCE, Phar. Chem., F.L.S., one of the 19th century's leading exponents of this subject. All apprentices and assistants have not the daily opportunity of working at a dispensing counter, with the result that many do not get adequate systematic training in the subject. This little book supplies this want. It gives graduated instruction in all manipulative requirements.

Price 3s. 6d., by post 3s. 9d.

## MANUAL OF PHARMACEUTICAL TESTING.

The late BARNARD S. PROCTOR, Phar. Chem., F.I.C., was a thorough believer in chemists and assistants testing the chemicals and drugs they handle, and he devised many "short cuts." This book, written by him and revised to suite the British Pharmacopoeia, 1898, contains his instructions for applying the B.P. tests with the materials and appliances which every chemist has at hand.

Price 2s. 6d., by post 2s. 9d.

## PRACTICAL METHODS OF URINE ANALYSIS.

This department of chemistry is one which those behind the drug counter can profitably cultivate. The object of this book is to give chemists exactly the information they want on the subject. The book is written by a working pharmacist who is expert in the subject, and has been revised by a M.B., Lond.

Price 2s. 6d., by post 2s. 9d.

## OPENING A PHARMACY.

This compact book deals with capital required, shop-fitting, order for drugs, the dispensing department, the chemist's books and how to keep them, how to take a lease, assistants, trade mark and copyright, the sale of poisons, stamped medicines, methylated spirit, advertising, and income tax.

Price 2s. 6d., by post 2s. 9d.

## THE CHEMIST'S DICTIONARY OF SYNONYMS AND TRADE NAMES.

Uniform with the "Chemist's Dictionary." Contains 220 pages; just published.

Price 2s. 6d., by post 2s. 8d.

*May be obtained at the published prices from any Wholesale Drug or Sundries House, or from*

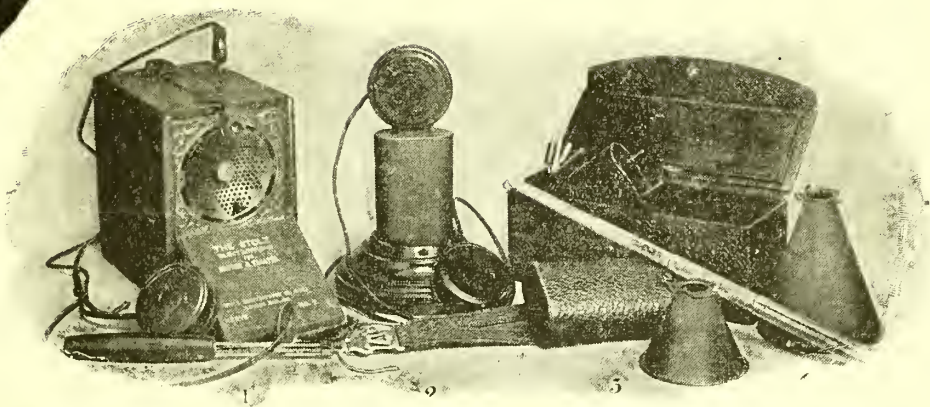
**"THE CHEMIST AND DRUGGIST," 42 Cannon Street, London, E.C.**

**Branch Offices:—MELBOURNE, SYDNEY, and ADELAIDE, AUSTRALIA.**

**U.S.A.:—Messrs. McKesson & Robbins. CANADA:—National Drug and Chemical Co., Ltd. SOUTH AFRICA:—Messrs. Lennons, Limited.**



# Deafness



1. Church and Theatre Instrument

2. Portable Pocket instrument with Stand.

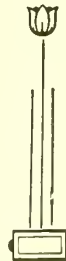
3. Sundry Accessories.

## The Stolz Electrophone

**T**HE Stolz Electrophone is a scientific instrument for the alleviation of deafness and the abolition of head noises. It is small, unobtrusive, light, portable and more efficacious than anything of the kind ever invented. In principle it is a magnifier of sound waves, and numerous instances are on record of people who have been deaf for 20, 30 and even 40 years being able to hear clearly and well through the medium of this remarkable instrument. The Stolz Electrophone is sold entirely on its merits. There is no reason why anyone suffering from any form of deafness should not take this favourable opportunity of securing prompt and quick relief.



The advantages of the Stolz Electrophone over the old-fashioned ear trumpet are incalculable. No need for shouting, no need for the speaker to approach closely. Every sound can be heard distinctly, each in natural volume and tone. In social intercourse, at opera, play, or concert, at business, everywhere, this wonderful appliance places the wearer on a practical equality with the rest of the world. The Stolz Electrophone will last a lifetime; there is nothing to break. The source of the wonderful power by which all sound waves are amplified and concentrated is electrical—the sounds are actually electrically conducted to the ear. There is no other device in the whole world possessing the power, efficiency and advantage of adjustment possessed by the Stolz Electrophone. Convincing evidence of its merits exists in the numberless testimonies of gratified users.



*Ask for our elaborate and fully descriptive new book, number 30 — we shall be glad to send it. You will be glad to have it.*

AGENTS APPOINTED IN ALL COUNTRIES

:: Special Terms made to Large Buyers. ::

## THE STOLZ ELECTROPHONE CO., LD.,

Head Office : Byron House, 85 Fleet St., London.

You  
are a  
**Busy Man,**  
is it  
**Worth your While**  
neglecting important business to  
do your own

**DEVELOPING,  
PRINTING, or  
ENLARGING,**

When you can get this work done by  
Experts who cater specially for your  
requirements.

*Prompt delivery is the  
keynote of our success*

If not already in your hands write  
**To-day** for our price list of photo work.

**BARKER'S PHOTO Co.**  
WINDERMERE.

The oldest established trade Photo  
House working specially for Chemists.

**COCKROACHES CLEARED WITH BLATTIS, THE UNION PASTE.**  
Guaranteed by E. Howarth, F.Z.S., who destroyed a plague of them at Sheffield  
Workhouse in 1896.

Supplied by order to the Royal Household at Sandringham.

Recommended by Dr. H. Woodward, F.R.S.: Canon Kinton Jacques, R.D.;  
by Mrs. Earle in "Pot Fourie" and all Ladies' Papers, Cookery Books, &c.

Wholesale Agents: F. Newbery & Sons, 27 Charterhouse Square, London, E.C.;  
Evans Sons Lescher & Webb, Ltd., 56 Hanover St., Liverpool, and 60 Bartholo-  
mew Close, London, E.C., and John Thompson, Ltd., 58 Hanover St., Liverpool.

Retail Agents: Butler & Crispe, 82 Clerkenwell Rd., London, E.C.; R. Hovenden  
& Sons, Ltd., 29, 30, 31, 32, and 33 Berners St., Oxford St., London, W.

**HOWARTH & FAIR, 471 Cukesmoor Road, Sheffield**  
Liverpool Branch: 107 Smithdown Road

# Freeman's

When  
ordering supplies  
of Chlorodyne be sure  
to specify **FREEMAN'S**—the  
leading specific for Cholera, Dysentery,  
Diarrhoea, and kindred disorders. Praised  
by doctors and public all over the world.  
It pays you a very generous profit.

## FREEMAN'S ORIGINAL CHLORODYNE

Usually retailed at 1½, 2/9, and 4/6 per bottle.

P.A.T.A. prices to Home Trade—9/3, 24/-

and 40/- per doz. Carriage paid on £5 lots.

Prompt and careful attention given to

EXPORT orders, with specially low terms.

Foreign & Colonial Agents wanted where not represented

Write, **FREEMAN'S CHLORODYNE, Ltd., London, S.E., Eng.**



POINTS ON  
**'SEMREH'  
SELF-FIXERS.**

No. 3.—They are Handsome.

"Handsome is as handsome does," but  
these Bottle Caps are handsome in appear-  
ance as well as in action. They improve  
the smart finish of any bottle and materially  
assist sales.

FULLY DESCRIPTIVE BOOKLET FREE.

**THE VISCOSE DEVELOPMENT CO., LTD.,**  
Pembroke Road, BROMLEY, KENT.

REDUCED PRICES OF

## PLEATED BOTTLE CAPS.

The best in Quality and Cheapest on the Market. 20 Years' Reputation.

Nos. 0, 1, 2, 3, 3b, 10, 20, 30 for Phials 4d. per gross

" 4, 4b, 40 for 3 to 6 oz. Bottles 4½d. "

" 5, 5b, 5, 50 for 8 to 10 oz. " 5d. "

Nos. 6, 6b, 60 for Pints ... 5½d. per gross

" 39, for Winchester Quarts 7d. "

" 8, Long, for Wines ... 9d. "

ELASTIC BANDS: Small, 3d. per gross; Large, 4d. per gross.

FROM

**WHOLESALE AND EXPORT ONLY.**

**DARTER, WILKINSON & CO.,** 23, 24, 25 Sandland Street, and  
3, 4, and 5 Gray's Inn Passage,  
HIGH HOLBORN, LONDON, W.C.

Also Manufacturers of Dish and Dessert Papers, Ham Frills, Ple Collars, Soufflet Cases, etc., etc.





# **FIRE !!**

---

---

*The outbreak of fire which occurred in our Ether Factory on August 12 was so slight that it will cause no hindrance to the execution or output of orders. We have to thank our friends for many expressions of sympathy and offers of help, and to assure them that neither manufacture nor despatch has been interfered with.*

---

---

**THOS. TYRER & CO. LTD.,  
Sterling Chemical Works,  
STRATFORD, LONDON, E.**

# TRY IT IN YOUR BATH

# SCRUBB'S AMMONIA



BY APPOINTMENT TO H.M. THE KING.

## MARVELLOUS PREPARATION

Refreshing as a Turkish Bath. Invaluable for Toilet Purposes.  
 Splendid Cleansing Preparation for the Hair. Removes Stains and Grease Spots from Clothing.  
 Allays the Irritation caused by Mosquito Bites. Invigorating in Hot Climates.  
 Restores the Colour to Carpets. Cleans Plate and Jewellery. Softens Hard Water.

Of all Chemists, Etc. Price 1s. per Bottle.

SCRUBB & CO., LTD., GUILDFORD STREET, LONDON, S.E.

# TELMO — FRECKLES

The widely advertised Cure for

for which there is a large and increasing public demand,  
 can be obtained from the leading Wholesale Chemists.

Handsome Profits, Quick Sales, Satisfaction Guaranteed to Purchaser,  
 or money refunded.

TELMO LABORATORIES, 6-8 Bouverie St., LONDON, E.C.

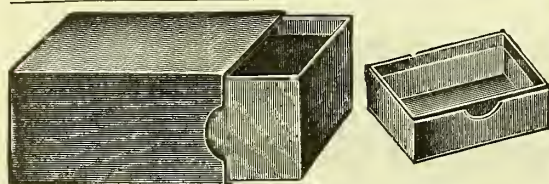
**TIME IS  
MONEY.**



### CROMPTON'S SELF-LOCKING BOX (PROTECTED)

NO STRING. NO TALLIES.  
 NO WRAPPING. NO TROUBLE.

THE MOST PERFECT SELF-LOCKING POSTAL BOX EVER INVENTED.  
 You cannot do without it. Write at once for Price and Samples.



THE CHEAPEST & BEST HOUSE  
 :: :: for all classes :: ::

### CARDBOARD BOXES, LETTER FILES, &c.

INQUIRIES INVITED.

**EELES WALKER & CO.** (Patentees and Manufacturers),  
 Hockley Works, Pitsford St., BIRMINGHAM.

Telegrams: "ELSWAL BIRMINGHAM." Telephone: CENTRAL 1650.

# BEETHAM'S "LAROLA"

(Registered)

Is the Skin Tonic for 1912.

*It is effective.*

*It is attractive.*

*It is price-protected.*

*It is well-advertised.*

*It sells readily.*

*It bears a good profit.*

## HAVE YOU OUR SHOWCARD ?

THIS IS WHAT THE "C. & D." SAYS OF IT:—

BEETHAM'S NEW SHOWCARD.—One of the prettiest lithographic productions which have come to us lately is the Larola beauty here depicted. The card measures 24 in. by 18 in., and is all roses, even the word "Larola" being formed from prickly rose-stems. The fair rose-gatherer has rosy cheeks, and she and the setting make so bright a picture that no pharmacy will be complete without it. Copies can be obtained from Messrs. M. Beetham & Son, Cheltenham, the originators of Glycerine-and-Cucumber and Larola.

This handsome Showcard, in 14 colours (size 24 by 17) can be had by any chemist who will give it a good place in his pharmacy.

**M. BEETHAM & SON, Cheltenham.**

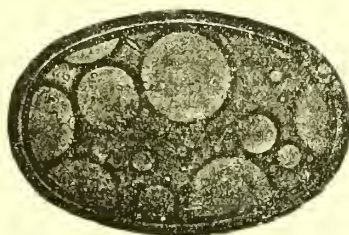


SCIENTIA

DILIGENTIA

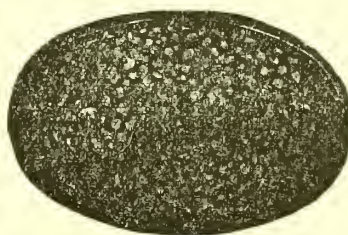
# BURGOYNE, BURBIDGES & CO

## "Cream" Emulsion of Cod Liver Oil



Ordinary Emulsions.

Photographs  
magnified  
140  
times.



Burgoyne's Cream Emulsion.

The Standard Emulsion for  
\_\_\_\_ Pharmacists. \_\_\_\_  
PALATABLE AND INSEPARABLE.

### COLEMAN STREET, LONDON, E.C.

Telegrams: "CYRIAX LONDON."

Telephones: 3254 LONDON WALL (Four Lines).

# VALAZE

**REMEMBER THE NAME.**—Many ladies will ask you this summer for this beauty cream, made famous by London's fashionable West End Complexion Specialiste, Mme. Helena Rubinstein. It will not show flattering business acumen not to be able to supply it.

RETAIL PRICE: 4/6, 8/6, and 21/- A POT.

**Madame Helena Rubinstein,**  
24 Grafton Street, London, W.

255 Rue Saint Honore, PARIS.  
274 Collins Street, MELBOURNE.

158 Pitt Street, SYDNEY.  
9 Brandon Street, WELLINGTON, N.Z.



## THE HAIR RESTORER

From the formula of a medical specialist who has devoted many years to the study of alopecia, seborrhea and allied conditions of the scalp.

Now being advertised all over the Country.

### GET ON TO THE "AIRONAL" SYSTEM OF CO-OPERATION

whereby, for every pound you spend with the Company up to September 1st, 1912, a fully paid

**2/6 SHARE will be GIVEN to you.**

Write for full particulars to—

**AIRONAL, LTD.,** 53 VICTORIA STREET,  
WESTMINSTER, S.W.

**OVER 100% PROFIT  
ENSURED & PROTECTED (P.A.T.A.)**  
for sellers of

## Laurence's Hair Dyes

One solution, nine shades.

A first-class article with an excellent demand, created entirely on its own merits, and carrying a first-class profit.

Size	Minimum retail.	Minimum wholesale.	
1/-	... 1/-	... 7/6	} per doz., less 5% discount.
1/6	... 1/6	... 9/-	
2/6	... 2/3	... 15/-	
3/6	... 3/3	... 21/-	

### SPECIAL BONUS.

Buyers of 3 doz. bottles receive 3 bottles gratis (may be assorted and any size).

Do. 6 doz. do. 8 bottles gratis.

Do. 12 doz. do. 18 bottles gratis.

Equivalent in the case of the size in most general demand, viz., 1/6 size, to 4/6, 12/- and 27/- respectively.

SOLE PROPRIETORS—

**C. R. HARKER, STAGG & MORGAN,**  
**DEVON WHARF,** LTD.  
Emmott Street, Mile End, London, E.



# JOHN JAKSON & CO.

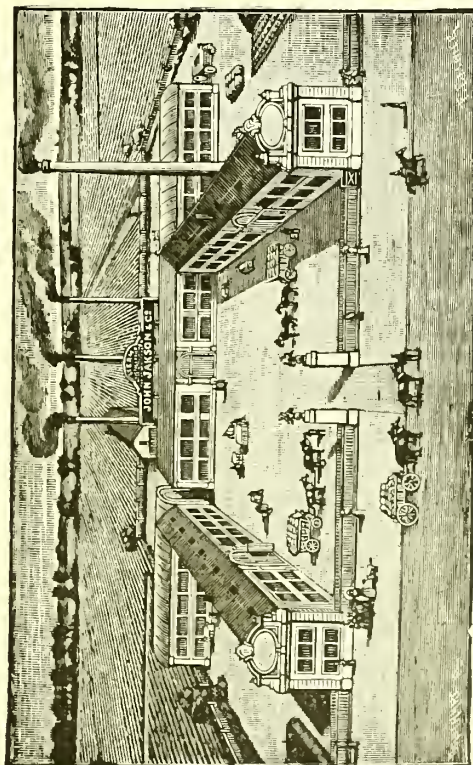
Growers and Distillers of PEPPERMINT, LAVENDER, CAMOMILE, &c.

Mitcham Road Steam Distillery, CROYDON (Surrey).

'Hors Concours'  
(Member of Jury)  
Brussels, 1910.



Gold Medal Paris  
Universal Exhibition,  
1900.



## HIGHEST AWARDS

AT  
PRINCIPAL  
EXHIBITIONS.

Paris, 1885.

Antwerp, 1885.

Liverpool, 1886

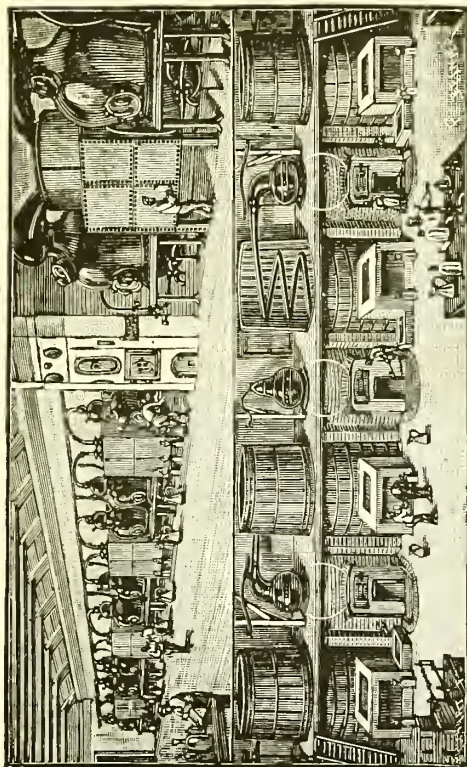
Paris, 1889.

London, 1890.

'Hors Concours'

(Member of Jury)

Lyons Universal  
Exhibition.

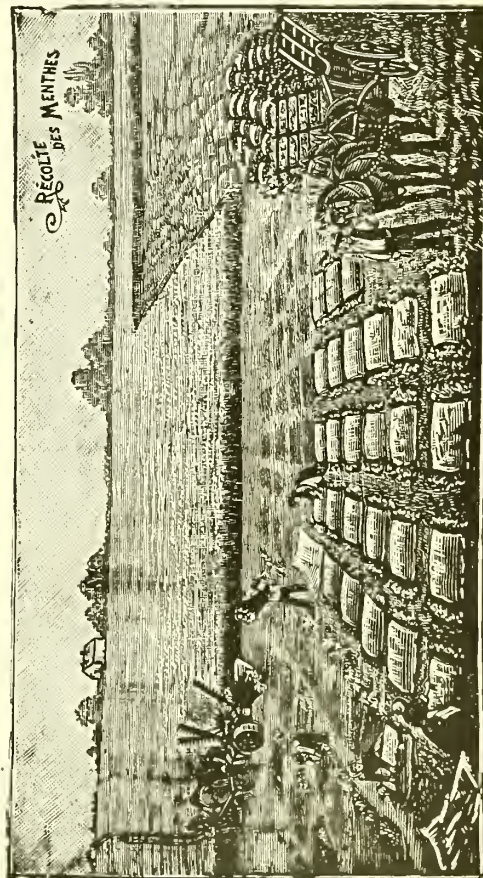


## GRAND PRIX

17 Bloomsbury Square, London,  
9th January, 1896.

Having visited the cultivation grounds and distilleries of Messrs. John Jakson & Co., devoted to the production of lavender, peppermint, and other essential oils, and having submitted samples of the oils prepared by this firm to a careful physical and chemical examination, I can bear testimony to the very complete arrangements, with all modern appliances, which are here provided for distilling essential oils, and to the excellent quality of the oils so distilled.

## FRANCO-BRITISH EXHIBITION



## LONDON, 1908

Mitcham has been renowned throughout this and part of the previous century for the successful cultivation of peppermint, lavender, and other medicinal plants, from which oils of superior quality have always been produced, but at no previous period have the means for obtaining products of the highest quality been so successfully carried out as they have been since the introduction of Messrs. Jakson's system.

T. REDWOOD, Ph.D., F.I.C.,  
F.C.S., &c.

*Emeritus Professor of Chemistry and  
Pharmacy to the Pharmaceutical  
Society of Great Britain.*



# Send to **ELEY** for these!

ELEY BROS. Ltd., possess facilities second to none for the manufacture of Silver- and Nickel-Plated Brass Boxes for Shaving Sticks and Aluminium Boxes for Denti-frice, Soaps, etc., also Tops, Caps, and Dredgers for Toilet and other Powders.

## SOLID DRAWN TUBES, SMALL BRASS AND ALUMINIUM STAMPINGS.

ELEY BROS. Ltd., are large manufacturers of this class of goods to the wholesale trade. Prompt attention given to all inquiries, prices on application.

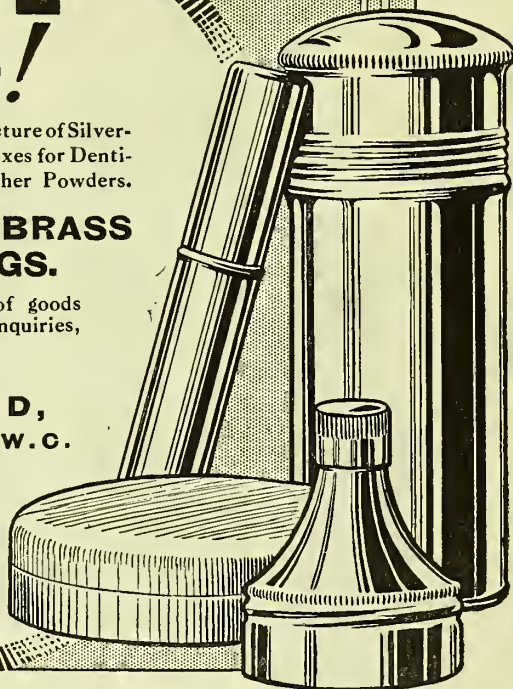
Address all enquiries for these goods to Dept. 21,

**ELEY BROTHERS LIMITED,**  
254 GRAY'S INN ROAD, LONDON, W.C.

BIRMINGHAM: 29 and 30 Whittall Street.  
GLASGOW: 82 Mitchell Street.  
LIEGE (Belgium): 107 Rue Louvrex.  
FLORENCE: 4 and 6 Via Cavour.

Canadian Branch:—

**ELEY BROS. (CANADA) LTD.,** Transcona, Man.



## JOHN STRANGE WINTER'S FAMOUS HAIR FOODS.

J. S. W.'s HAIR FOOD (Original). 2/6 per bottle.

HAIR FOOD, NON-OILY, No. 1315. An elegant preparation subsequently evolved. Clear, non-oily, delicately aromatic. 3/6 per bottle and 8/- (4 times 3/6 size).

TEMPLE CREAM. The richest Hair Tonic on sale. For bare temples, bald patches, eyebrows, moustaches, etc. 2/6 per bottle and 6/- (4 times 2/6 size).

AWARDED SIX GOLD MEDALS.

Write for full list (30 Preparations) to

**JOHN STRANGE WINTER, Ltd.**  
YORK HOUSE, HURLINGHAM, LONDON, S.W.

Telephone No.: 742 Putney.

Wholesale Agents: BURGONE, BURIDGES & CO.

## BARNETTS PERFUMES & GOLD CREAM

STAND UNRIVALLED.

Samples and Prices (in bulk) on Application.

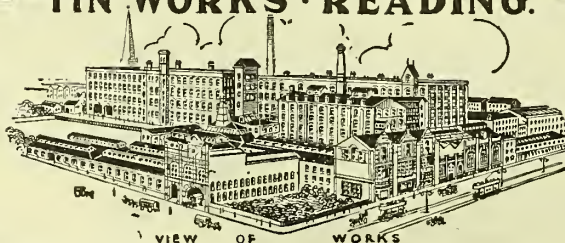
**BARNETTS PERFUMERY LTD.,**

126/128 Bristol Street, BIRMINGHAM.

# HUNTLEY, BOORNE & STEVENS LTD

TIN WORKS · READING.

COLOR  
PRINTERS  
ON TIN



MAKERS OF HIGH-CLASS  
DECORATED & PLAIN TIN BOXES  
& SPECIALITIES FOR CHEMISTS

QUOTATIONS TO SAMPLES  
OR DESCRIPTIONS

CORRESPONDENCE INVITED.

TELEGRAMS "HUNTBROS READING" NATIONAL  
TELEPHONE 28



# THERMOGENE CURATIVE WADDING

Unlike anything

Supplants nothing

## VAST ADVERTISING SCHEME

now being planned

## SPECIAL BONUS TERMS—GREAT PROFITS

The THERMOGENE CO. Ltd., Hayward's Heath, Sussex.  
FASSETT & JOHNSON, 86 Clerkenwell Rd., London, E.C.

### PARAGON PRINTING PRESS.

#### HAND POWER.

#### A BOON TO CHEMISTS.

No.  
22.

800 to 1,000 labels  
printed per hour on our  
No. 22 Paragon Press.

Size of Chase 3 x 4½ inches.

PRICE COMPLETE

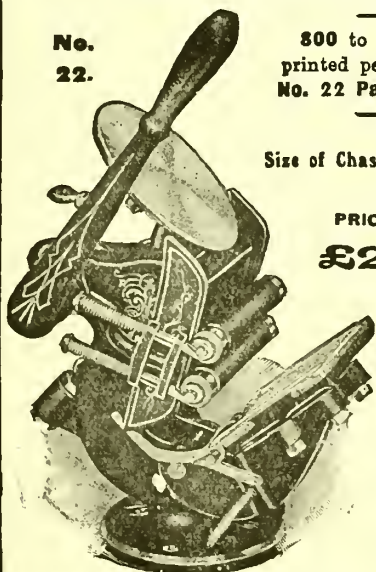
£2 17 6

Including  
Type, Rollers,  
Ink, Cases,  
&c.

Instructive Book-  
let post free.

LARGER and SMALLER  
SIZES IN STOCK.

PARAGON PRESS CO., 296 Bishopsgate, London, E.C.



### Press Cuttings

Everything and anything that is  
printed in any newspaper anywhere  
can be supplied by

## The Central News,

Press Cutting Department,  
5 New Bridge St., London, E.C.

The Central News Agency has been established  
over forty years.

### SAL HEPATICA.

PUT UP FOR EXPORT.

Small size, 3 oz. bottle, in case.  
Medium " 7 " " "  
Large " 16 " " "

OBTAINABLE IN LONDON FROM

Thos. Christy & Co., 4-12 Old Swan Lane,  
Upper Thames Street, E.C.

The American Drug Stores, 24 Orange Street,  
Haymarket, London, W.C.

Burgoyne, Burdidge & Co., 16 Coleman Street,  
E.C.

F. Newbery & Sons, Ltd., 27 Charterhouse  
Square.

Roberts & Co., 16 New Bond Street, W.



## PRODUCTS OF RESEARCH

### 'EPININE' *(3:4-dihydroxyphenylethylmethylamine)* (Trade Mark)

The Synthetic Hæmostatic. It possesses the characteristic physiological action of the extract of the supra-renal gland, being approximately  $\frac{1}{10}$  as active as the supra-renal active principle, according to measurements of their effects on the blood-pressure of the cat.

### 'ERNUTIN' BRAND PRODUCTS (Trade Mark)

Presenting active therapeutic principles of ERGOT. Unvarying in strength and of the highest degree of purity. Infinitely more reliable than ordinary preparations of this notoriously uncertain drug.

### 'LODAL' *(6:7-Dimethoxy-2-methyl-3:4-dihydroisoquinolinium Chloride)* (Trade Mark)

An oxidation product of laudanosine. Causes marked tonic contraction of the uterus. Beneficial in cases of uterine hæmorrhage and pain.

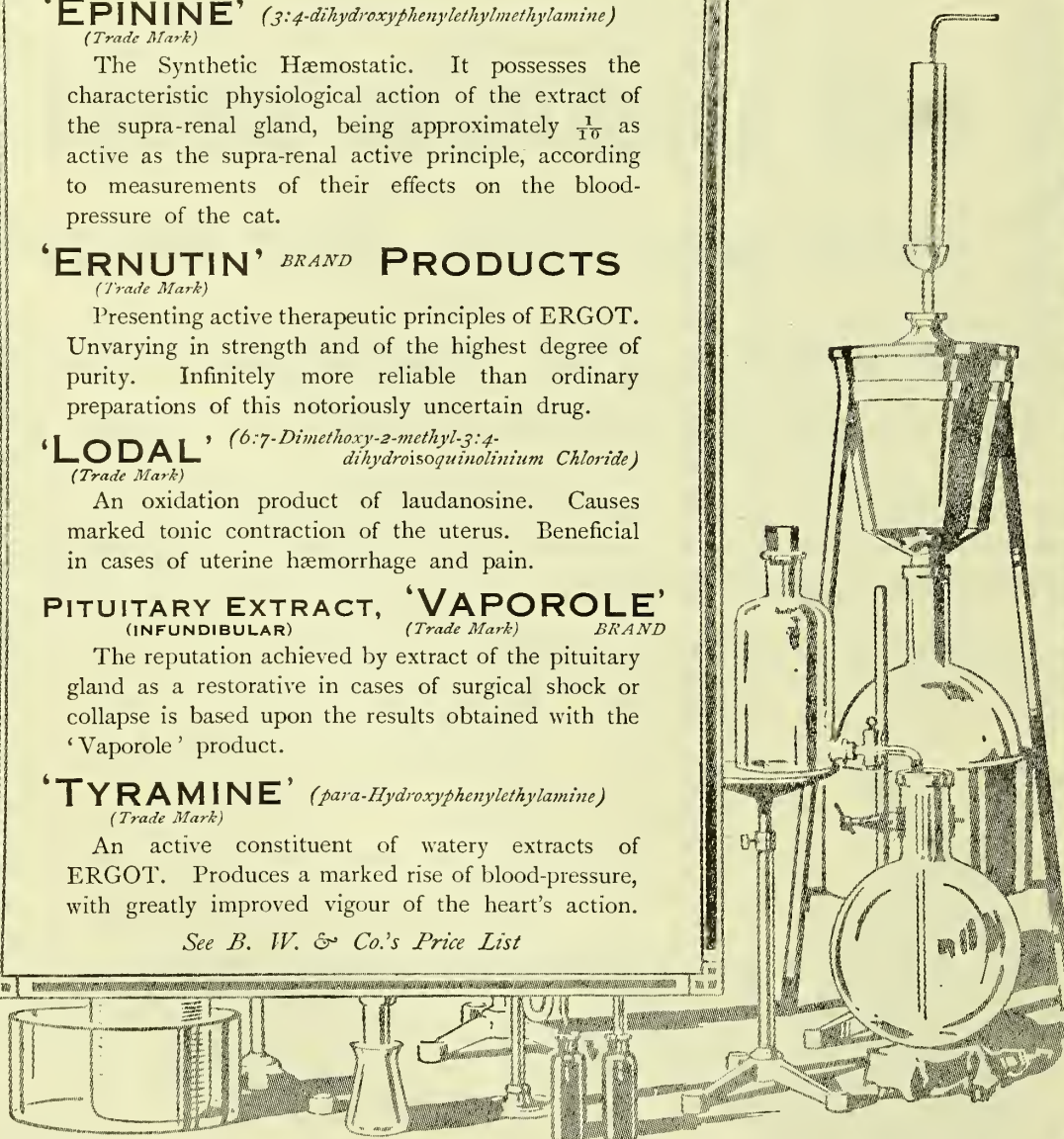
### PITUITARY EXTRACT, 'VAPOROLE' (INFUNDIBULAR) (Trade Mark) BRAND

The reputation achieved by extract of the pituitary gland as a restorative in cases of surgical shock or collapse is based upon the results obtained with the 'Vaporole' product.

### 'TYRAMINE' *(para-Hydroxyphenylethylamine)* (Trade Mark)

An active constituent of watery extracts of ERGOT. Produces a marked rise of blood-pressure, with greatly improved vigour of the heart's action.

*See B. W. & Co.'s Price List*



BURROUGHS WELLCOME & CO., LONDON  
NEW YORK · MONTREAL · SYDNEY · CAPE TOWN · MILAN · SHANGHAI · BUENOS AIRES · BOMBAY  
*London Exhibition Room: 54, WIGMORE STREET, W.*



# THE 'WELLCOME' MATERIA MEDICA FARM NEAR DARTFORD, KENT

This Farm was  
instituted to  
provide medicinal  
plants of a suffi-  
ciently high  
standard of quality for



TRADE MARK 'WELLCOME' BRAND

(Standardised)

## GALENICALS

Such herbs as Aconite, Belladonna,  
Digitalis, Hyoscyamus, etc., are  
cultivated to perfection under  
scientific control.

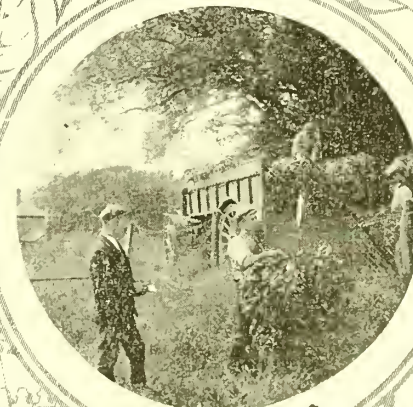
*See the 'Wellcome' Chemicals List*



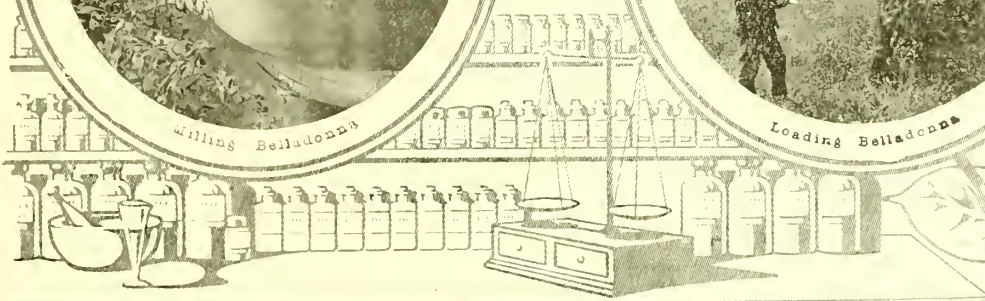
Gathering Belladonna



Grinding Belladonna



Loading Belladonna



BURROUGHS WELLCOME & CO., LONDON

NEW YORK MONTREAL SYDNEY CAPE TOWN MILAN SHANGHAI BUENOS AIRES BOMBAY

G. 510

London Exhibition Room: 54, WIGMORE STREET, W.

CONVERTIBLE

# WARRICK

# BROTHERS,

6 NILE ST.,  
LONDON, N.

CHOCELLÆ.  
PULVELLÆ.  
FLEXOIDS.  
FLEXETTES.  
FIZZLETS.  
REFRESHLETS.  
EXTRAITS AUX FLEURS.  
ESSENTIAL OILS.  
POMADES (FLORAL).  
ROSE WATER.  
SACHETS.  
PERFUMES.  
CACHOUS.  
CHANTICLEER  
VOICE PASTILLES.  
FRAGRETS.  
PERLES.  
PASTILLES.  
LOZENGES.  
ORIFORM LOZENGES.  
WASMUTH'S  
CORN RINGS.

WALMSLEY CLEANING  
PADS.  
COMPRESSED  
PERFUMERY (CINET'S)  
AMULETS.  
POT POURRI (CINET'S)  
FRAGRETTA  
SCENT & SOAP.  
TOILET SOAPS  
CHAPIREAU'S CACHETS.  
CINET'S GOODS.  
CACHETS.  
CACHET APPARATUS.  
ZEPHYR BUTTONHOLES.  
CAPSULES.  
PERFUMETTES.  
OTTOLETTES.

Also Special Agents for:  
JELLOIDS.  
IRON JELLOIDS.

**HENDRIE'S SOAPS  
& PERFUMERY**

**R. HENDRIE & CO.,** Wholesale Perfumers,  
4 NILE STREET, LONDON, N.

**Maddocks' Old English  
Lavender Water.**

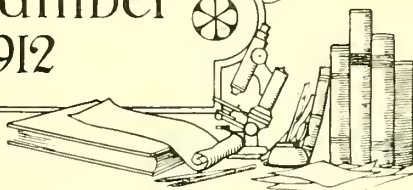
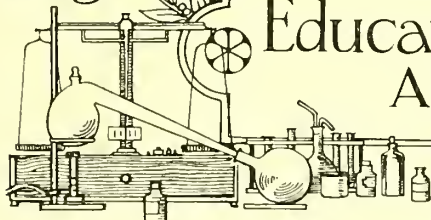
**MADDOCKS & CO.,** Wholesale Perfumers,  
4 NILE STREET, LONDON, N.



# THE CHEMIST & DRUGGIST

## Educational Number

### August 17, 1912



Established 1859.

Subscription, 10s. a year, post free.  
Single weekly issue, 6d.  
Summer or Winter Issue, 1s.

The Official Organ of Nineteen Societies of  
Chemists, Druggists, and Pharmacists  
at Home and Abroad.

Head Office :  
42 Cannon Street, London,  
England.

## Contents.

Vol. LXXXI., No. 7 (Series No. 1699).

	PAGE		PAGE
Athletics and Sport		Fairehild Scholarship	75
Col. Supp.		French News	37
Australasian News	38	Home Study for the Minor	
Bankruptcy Reports	42	Col. Supp.	
Bell Scholarship	75	India and the East	40
Births	44	Information Department	48
Business Changes	47	Irish News	36
Companies and Company		Japanese Jottings	40
News	43	Legal Reports	42
Corner for Students	34	Marriages	44
Correspondence	79	National Health Insurance	41
Deaths	44	Nepal Sassafras Oil	47
Deeds of Arrangement	43	New Books	Col. Supp.
Editorial Articles:		Observations and Reflections	49
The Trend of Pharmacy	50	Personalities	46
Women Councillors	51	Poisonings	34
Foreign Trade in July	52	Practical Notes	48
Educational Information:		Private Meeting	46
Entrance Examinations	53	Retrospect	80
Pharmacy	55	Scottish News	37
Chemical Science	61	Shops Act	41
Optical	63	South African News	39
Medicine	65	Trade-marks	Col. Supp.
Dentistry	71	Trade Notes	47
Veterinary Surgery	72	Trade Report	76
Scholarships and Prizes	73	Wills	46
English News	35		

### Educational Matters

form the feature of this issue, which is in itself a complete guide to the pharmaceutical examinations in the United Kingdom. It also deals with similar matters in connection with the collateral arts and sciences (pp. 53 to 75).

We first give particulars of the examinations in general knowledge which are required for entering pharmacy, medicine, and for degrees in science (pp. 53 and 54).

The regulations governing admission to examinations in pharmacy and the scope of the examinations are the subject of the second section. The opportunities for pharmaceutical instruction throughout the country are also tabulated, and supplemental details are given as to the Apothecaries' Assistants' certificate and of degrees in pharmacy (pp. 54 to 60).

In the Chemical Science Section a distinction is drawn between education in pure science and in analytical and technical chemistry. Examinations and instruction in optics are included here (pp. 61 to 64).

A useful synopsis of the medical curriculum by a chemist's son introduces the section on medicine and surgery. Particulars are given of the various medical degrees and diplomas which can be taken in the United Kingdom, and of the institutions offering medical instruction (pp. 65 to 70).

Dental surgery is epitomised on pp. 71 and 72, veterinary surgery on pp. 72 and 73. Scholarships, prizes, and appointments of interest to chemists are given on pp. 73 to 75.

## Summary.

The more notable items only are dealt with.

### Articles and Communications.

The characteristics of Nepal sassafras oil have been determined by Mr. S. S. Pickles (p. 47).

The trend of pharmacy as affected by legislation of recent years is the subject of our first editorial article (p. 50).

The experiences of a Bell Scholar and a Fairehild Scholar given on p. 75 should be of interest to intending candidates for these awards.

The candidature of women for the Council of the Pharmaceutical Society is a possibility according to the lay Press. This recalls the struggle for admittance of women as members of the Society (p. 51).

"Xrayser II." deals with the ideal and the real relations regarding the ethics of prescription, some of the causes of the lack of business knowledge among pharmacists, and gently admonishes "Jay Mack" (p. 49).

Among the practical items in this issue are formulæ for white liniment and pine inhalant (p. 80), metal-polishing cream and powdered Bland's Mass (p. 48); while methods of disinfecting hides and preparing oculists' ointments are given on p. 48.

### News of the Week.

A new poison schedule and sale regulations for South Australia are given on p. 38.

The Irish Privy Council has issued regulations governing the sale of poisons under Section 5 of the Poisons and Pharmacy Act (p. 36).

An important relaxation of the present regulations regarding the admission of foreigners to French University degrees is noted on p. 37.

The Bombay Government has amended the Abkari Act, under which much heavier fines and imprisonment for the smuggling of cocaine are to be imposed (p. 40).

A number of foreign scientists are to be given honorary degrees of St. Andrew's University on the occasion of the Visit to Dundee of the British Association (p. 37).

Portraits are given on pp. 44 and 45 of Mr. E. L. Armbricht, Mr. Reginald Howell, Mr. B. E. R. Newlands, and Mr. James Smith, who have died since our last issue.

The medical men's attitude towards the National Insurance Act has undergone but little change during the week. The medical members of the Advisory Committee have not obeyed the orders to resign of the British Medical Association (p. 41).

### Trade and Market Matters.

The Board of Trade returns for July provide splendid evidence for the vitality of British trade (p. 52).

The market changes include an advance in atropine, cream of tartar, potash prussiate, eucalyptus and cod-liver oils; ammonia sulphate and shellac are firmer, Beladonna-root, chamomiles, copaiba, hydrastis, spearmint, and American peppermint oils are more or less cheaper. Business is improving (p. 76).

## CORNER FOR STUDENTS.

H. J. W. T. (123/16) sends an experience which is annotated below. He writes that, with other "braves," he entered the Bloomsbury examination-hall by the back portal. His account of what happened afterwards is given below:

*Practical Chemistry* was as follows:

1. A is a carbonate; identify it, and from it prepare a crystalline specimen of the sulphate.
2. Find the amount, in grams, of  $K_2CrO_4$  in 100 c.c. of the given sol. Pure ferrous ammonium sulphate provided.

The substance I found to be zinc carbonate, but should have got better crystals than I did. Still, I did my volumetric work fairly well, so I was satisfied.

*Dispensing* in the afternoon was very straightforward.

Ammon. carb. ...	...	...	...	gr. xl.
Tr. tolu. ...	...	...	...	3ij.
Oxymel. scillæ ...	...	...	...	3iv.
Tr. camph. co. ...	...	...	...	3ij.
Inf. senegæ ...	...	...	...	3vj.

Sig.: 3ss. t.d.s.

Ung. hyd. co. 3ij.

Phenazoni ...	...	...	...	gr. viij.
Caffein. cit. ...	...	...	...	gr. ij.
In cachet. Mitte vj.				

Ext. cascarr. sag. ...	...	...	...	gr. ij.
Ext. hyoscyami ...	...	...	...	gr. j.
Podophyllin. ...	...	...	...	gr. 4

Fiat pil. M. xx. Silver.

Sig.: j. at bedtime.

Emp. bellad. 6 in. for breast.

Everything was finished by 4.30 p.m. I was notified to attend again at "dear old Galen Place," where I duly put in an appearance.

*Materia Medica* came first. Here the fun commenced by my dropping all the coins in my pocket on the floor, the majority rolling to different parts of the examination-hall, as if they wished me to go to all the examiners at once. I was quite excited enough with one; still it passed over all right, the examiner kindly helping me to recover my treasures. At last I started, or at least the examiner did, he giving many drugs to recognise, including various kinds of aloes, lily of the valley, aocacia gum (three samples), paracira brava, nux vomica, *Strychnos Ignatii*, liquorice-root, aconite (three kinds), guaiacum, hydrastis, castor-oil seeds, croton-seeds, shellac, sweet almonds, and bitter almonds. What is the percentage of alkaloids in the seeds of *Strychnos Nux Vomica* and *Strychnos Ignatii*, and how much is strychnine? With what acid is the latter combined, and how would I extract it from the beans? What is the percentage of alkaloid in English aconite-root? How much oil in castor-oil seeds? What do bitter almonds contain? What did I know about their active constituent? After several natural orders and a few habitats, I was sent to

*Prescription-reading*.—Here I had the same mishap of letting my money fall at the examiner's feet, whereupon he asked me if I was trying to bribe the examiners. After translating a prescription into full Latin I had a calculation: To find the quantity of citric acid, for sixteen powders, to neutralise the alkali in the prescription given. Then several prescriptions to read through; and, lastly, some doses, including those of phenazone, phenacetin, sodium arsenate, elaterin, and antefebryn.

*Botany* followed. Here a poppy was given for describing. What is the term used when the sepals do not remain on the flower? How many kinds of poppies did I know of? Also several questions on this flower. Next came a microscopical slide, which I rightly said was a dicotyledonous root. Then a leaf was shown me: why is it hairy, etc.?—about ten minutes of this ensuing before I was again allowed to sit down.

*Pharmacy* began with the recognition of tincture of myrrh. How do you make it, and how much resin does it contain, and how much myrrh? On exhausting 10 oz. of myrrh with spirit how much residue would be left, and how would this compare with asafetida and galbanum? What is the percentage of resin and gum in these two drugs? The next specimen I recognised as "ext. bellad." Is it the alcoholic extract? How would I make the latter? What percentage of alkaloids does it contain? Questions followed on the percentages of alkaloids in several preparations, including ext. bellad. liq., ext. nucis vom., and ext. nuc. vom. liq. What quantity of morphine, chloroform, prussic acid, and tr. cannab. ind. is contained in a 10-minim dose of tr. ohlor. et morph. co.? A sample of soft soap was shown next. How is soft soap made, and what is it chemically? Also several other questions concerning soaps. Then terebene

was handed for recognition. Give its preparation. Then lin. camph. How made, and what is the percentage of camphor in it? What are the ingredients in lin. camph. co.? How would I prepare tr. cannabis indicæ? What strength? Is the green fluid shown the tincture, or (as a student had just told him) green oil? I replied that it was Indian hemp tincture, which happened to be correct. Finally, I had to pick out several pieces of apparatus.

*Chemistry*.—Here I was told to write down the oxides of lead, mercury, copper manganese, and chromium, giving modes of preparation. I had almost finished these when the examiner asked me a few questions on grape sugar: was it an oxidising or reducing agent? What happened when Fehling's solution was added to it? Then a few questions on copper. Next write down methods for the preparation of oxalic acid, salicylic acid, and chloroform. The end came after waiting on pins and needles for another five minutes, when the President came forward and congratulated me on passing.

The papers on practical chemistry and dispensing are quite straightforward, with the possible exception of the plaster, as so many candidates in these days of elegant ready-made plasters have gained all their experience of plaster-spreading at their College of Pharmacy. The incident of coin-dropping is typical of the nervous state habitual with candidates at this examination. Foolish tales regarding fearsome examiners are usually as much responsible for this as overwork. Nothing of great importance arises out of the materia-medica questions. In botany the questions in regard to hairy leaves apparently related to their effect on the rate of transpiration. In pharmacy the student ought to know that the amount of residue on exhausting myrrh with spirit will depend upon the quality of the drug, and that the B.P. gives a limit for this. Again there is evidence that a good knowledge of the alkaloidal strengths of the more important B.P. preparations is demanded. Guessing at the nature of a chlorophyll solution is not good pharmacy. Taken on the whole, "H. J. W. T." seems to have had a fairly easy examination.

## POISONING FATALITIES.

*Carbolic Acid*.—A Talgarth (Brecon) bride of three week's standing named Evans found "life not worth living," and ended it by taking this poison.

*Disinfecting-fluid*.—Emma Watson, wife of a Swinton miner, poisoned herself by taking some disinfectant-fluid. —At the inquest on Francis Forth, an inmate of the City Asylum, Gosforth, the jury returned a verdict of "Death from heart failure through drinking a quantity of Jeyes' fluid while insane."

*Oxalic Acid*.—Mary Frances Jacobs, of Southampton, and John Broadbank Rose (29), packer, Newington, both committed suicide by taking oxalic acid.—Harriet Ann Telford (57), Manchester, killed herself in the same way.

*Phosphorus-poisoning* accounted for the death of Margaret Harris (85), St. Helen's, but a Coroner's jury was not able to decide under what circumstances it was taken.

*Potassium Cyanide* was administered by Mary Watson to her two children, aged nine and five, who died in consequence. The parents have been arrested.—Robert Gray Bennett (56), photographer, used the same poison for purposes of self-destruction.

*Salt of Lemon* was used for suicidal purposes by Harry Block (29), of Islington.

*Spirit of Salt* was taken with fatal effect by Charles Blick, Islington, while returning from Brighton races; and by Fredk. Savory (67), Islington, and Alfred Lane, Warboys, both engine-drivers.—Mrs. Emma Austin (56) poisoned herself with this corrosive fluid while insane.

*Strychnine*.—Hannah Blackburn (19), Asholme Farm, Coanwood, committed suicide by taking strychnine. The poison was taken from a cupboard in the house of her employer.

*Mixed Poisons*.—Mixing together three poisons, cantharides, cocaine, and carbolic acid, from her master's surgery and colouring them with a blue stain used for microscopical purposes, Elizabeth Eavcs (43), domestic servant to Dr. Alexander Wilson, Battersea, swallowed the mixture, with fatal results.—Alfred Hemment (61), ex-artillery sergeant, Peterborough, was found dead in his room with bottles containing carbolic oil and spirit of salt close by and a tumbler containing a mixture of these substances. The jury returned a verdict that the deceased died from taking poison, but there was no evidence as to whether it was taken accidentally or intentionally.



## ENGLISH AND WELSH NEWS.

When sending newspapers to the Editor please mark the items of news to which you desire to call his attention.

### Brevities.

One of the plate-glass windows of the shop of Boots Ltd., Lancaster, was smashed by a farmer's cart last week. The horse attached to the cart backed into the window.

During a thunderstorm which passed over Reading on August 10, the chemical works of Mr. G. W. Harrison, Caversham Road, were struck by lightning. The roof was destroyed and other damage was done, but nobody was injured.

"Mr. W. Purton, Westfield Villa, Southlands Road, Bromley, Kent," is still sending to chemists post-card orders for goods. A card was received by a Southend chemist on August 9 with the usual request for a "small bill with parcel" (see *C. & D.*, June 29, index folio 971, and July 6, index folio 21).

The British Brush Manufacturers' Association have issued a notice that, owing to the increased cost of raw materials, an increase in Workmen's Compensation insurance rates, and the contributions under the National Health Insurance Act, the price of household brooms and brushes is advanced 5 per cent. in the home trade.

### Electrolytic Disinfecting-fluid.

We have several times within the last few years referred to the electrolytic disinfecting-fluid manufactured and supplied by the Poplar Borough Council. The report of the medical officer of health, Dr. F. W. Alexander, for 1911 states that 53,063 gals. of the fluid was made during the year at a cost for electricity and materials of 108*l.* 9*s.*, and for bottles and corks 19*l.* 6*s.* 1*d.* Since the plant was installed six years ago nearly 200,000 gals. has been made. The electrolytic fluid is employed among other uses for adding to the water in the swimming-baths. It prevents the accumulation of slime on the water. The medical officer of health takes the opportunity in the report of replying to adverse criticisms which have been passed on the system of manufacture.

### Fires.

A slight fire occurred through the firing of ether at the chemical works of Messrs. T. Tyrer & Co., Ltd., West Ham, on August 12. The damage was comparatively unimportant, being confined to the still, but a workman named Rodgers was burned on the face and hands. The man was taken to the West Ham Hospital, and is making a favourable recovery. An advertisement in this issue assures chemists that no hindrance will be caused to the execution or output of orders.

A large portion of the premises of St. Ivel, Ltd., makers of Visem tablet-food, was destroyed by a disastrous fire at Yeovil on August 11. The new offices, only finished within the past month, were completely demolished. The damage amounts to many thousands of pounds. The company have since issued a statement that the fire was confined mainly to the offices, and that it will not affect the manufacturing side of the business.

### Birmingham Notes.

Several tradesmen have been fined in the city for not complying with the Shops Act in the matter of early closing.

The National Cash Register, Ltd., have a striking exhibit in a New Street shop. It is of a mechanical character and attracts passers-by.

Priestley's statue is being removed to Chamberlain Square. The position it formerly occupied is to be taken by a statue of King Edward VII.

The Skin Hospital of the city is asking for public contributions for a supply of radium, which is to be obtained from the Curie Laboratory, Paris.

Miss Vera Alcock, daughter of Mr. F. H. Alcock, Ph.C., has obtained a Foundation Scholarship at the King Edward's High School for Girls, Birmingham.

The only pharmacy in Corporation Street—the principal street of our city—has closed its doors, and the book of prescriptions and recipes has been transferred to Messrs. Needham's other shop in New Street. The closed shop was opened some years ago as a pharmacy by Mr. Martin Magor (now of West Bromwich) and passed into the hands of a company, and finally was secured by Messrs. Needham.

Yet another local glory is to pass away—Aston Lower Grounds, which is to be used for building purposes. It was part of Aston Park, which Queen Victoria came to open very many years ago. Its special claim for pharmaceutical interest is that in the grounds was an aquarium, the supply of artificial sea-water to which was an outcome of experiments by Messrs. Southall Bros. & Barclay, Ltd., and Mr. H. W. Jones, F.C.S. Their deliberations probably resulted in the production of Messrs. Southall Bros. & Barclay's well-known sea-salt.

### Contracts.

Alford (Lincs) Urban Council.—Mr. R. Kemp as chemist for the ensuing half-year.

Salford Town Council.—Higginbottom & Co., Manchester, for old copperas at 22*s.* 6*d.* per ton.

### Poison-licences.

Mr. Thomson Darge, nurseryman, 8 Tonbridge Road, Maidstone, has applied to the Town Council for a poison-licence.

The Bootle Town Council has granted the application of the British Nicotine Co., Ltd., of Back Strand Road, Bootle, for a license to sell poisons.

### From Various Courts.

At the Thames Police Court on August 13 three Russians were convicted of harbouring and concealing uncustomed saccharin. The chief offender was fined 36*l.* 13*s.*, or six months' imprisonment, and two others were fined 50*l.* or three months' and 25*l.* or two months'.

At Newent (Glos.), on August 8, Wm. Davis was charged with stealing from the shop of Mr. Henry Whittles, chemist and druggist, Broad Street, Newent, a case containing sixteen anti-rheumatic rings, valued at 5*l.* 2*s.* 6*d.* He was committed for trial.

At Leyland Police Court on August 12, Edward Kay, chemist's assistant, was summoned by his wife for persistent cruelty and also for neglecting to maintain her. Accused was stated to have frightened his wife by bringing a revolver into the house. The Bench dismissed the case.

At Cullompton on August 8, Charles Place, described as a chemist, was remanded, on bail, on a charge of supplying noxious drugs for an illegal purpose. In the statement for the defence it was mentioned that prisoner is a qualified chemist of New South Wales, and acted as an army dispenser during the South African War.

Before the Llandyssil magistrates, a man, describing himself as "Baron Watkin, of Glyncothi," manufacturer of pills, was fined 1*s.* and costs (2*l.* 14*s.*) for having ill-treated a cow and calf. Defendant brought with him a facsimile of the Magna Charta and some ancient books, and disputed the jurisdiction of the Court. He paid the fine, however.

During the hearing last week of a charge of murder by stabbing against a girl named Williams at the Clerkenwell Police Court, it was stated by Mr. Josiah Skewes, chemist and druggist, 2 Upper Street, Islington, N., that prisoner purchased at his shop sixpennyworth of nitric acid, which she said was wanted for warts. Prisoner told a companion that she had thrown nitric acid in the murdered woman's eyes as well as stabbing her.

At the North London Police Court on August 9, John T. Scott (27) was committed to the Central Criminal Court on a charge of uttering a forged receipt for 14*l.* 1*s.*, and with falsifying the books of his employer, the Liquid Veneer Co., 54 Stoke Newington Road, London, N. Defendant was stated to have formed a rival company. At the same court Barnett Barnett (25) was remanded on bail upon a charge of stealing liquid veneer to the value of 14*l.*

**Analysts' Affairs.**

The Stockport Town Council have appointed Mr. Wm. Thomson as official agricultural analyst under the Fertilisers and Feeding-stuffs Act, 1906, at a fee of 10s. 6d. for each analysis.

At Portsmouth last month samples of powdered mace, caraway, gentian, glycerin, carbolic-acid ointment, and liquid extract of ipecacuanha were taken for analysis and certified to be genuine.

In the East Riding of Yorks during the past quarter the following samples were examined: Laudanum (6), liquorice-powder (8), mercury ointment (2), red-precipitate ointment (4), paregoric (1). All were genuine.

In the city of Sheffield during the past quarter the samples examined included camphorated oil (8), compound liquorice-powder (5), and sweet spirit of nitre (8). One sample of sweet nitre was deficient in ethyl nitrite.

Mr. Arthur Angell, public analyst for the county of Southampton, reports that among the samples examined during the past quarter have been milk of sulphur (3), arrowroot (8), cream of tartar (2), and citric acid (2). These were genuine, as also were informal samples of tincture of rhubarb and milk of sulphur.

The Denbighshire county analyst, reporting on analyses under the Fertilisers and Feeding Stuffs Act, states that one sample of linseed-meal, suspected of causing the death of a number of calves, was found to give off, when warmed, an appreciable amount of hydrocyanic acid, due to the presence of a cyanogenetic ferment.

Dr. Dudfield, medical officer of health for the borough of Paddington, in his annual report states that he has examined the following samples: glycerin (3), sal volatile (2), spirit of camphor (2), spirit of nitre (2), camphorated oil (2), ammoniated tincture of quinine (2), tincture of rhubarb (1), oil of juniper (1), and arrowroot (1). All were genuine.

The county analyst of Leicestershire in his quarterly report states that he examined the following samples: camphorated oil (16), chloride of lime (12), and sweet spirit of nitre (16). Of the camphorated oil samples two were deficient in camphor. Four samples of chloride of lime were deficient in available chlorine, but in one case where the vendor was prosecuted the Magistrates refused to convict because they did not consider chloride of lime to be a drug.

Dr. G. B. Millson, medical officer of health for Southwark, reports that of the 1,627 samples of food and drugs submitted for analysis during last year forty-nine samples were purchased from chemists and druggists, and all were certified as genuine. These included cod-liver oil (6), olive oil (5), crushed linseed, alum, Epsom salt, and glycerin (3 each), saltpetre, borax, citrate of magnesia, compound liquorice-powder, sulphate of quinine, and nut oil (2 each), and ground alum, permanganate of potash, turmeric, sulphur, balsam of aniseed, tartaric acid, orange and quinine-wine, quinine-wine with coca, quinine-wine with meat and malt-extract, linseed oil, eucalyptus oil, camphorated oil, and castor oil (1 each).

Dr. Priestley, medical officer of health for Lambeth, reports that during the past year sixteen samples of drugs were taken, but none were found to be adulterated. The drugs examined were cream of tartar (5), tartaric acid (1), milk of sulphur (1), citric acid (4), and Gregory's powder (5). The Council have urged the Local Government Board and the Board of Agriculture and Fisheries to introduce legislation (1) to amend and consolidate the Sale of Food and Drugs Acts; (2) to lay down definite standards or limits in respect of all the principal classes of food in common use; (3) to establish a Court of Reference; and (4) to deal adequately with the difficulties surrounding the question of "warranties" and "disclosures" as protecting the vendors of adulterated food and drugs.

In his quarterly report, Mr. J. F. Liversege, F.I.C., Ph.C., analyst for Birmingham, states that he condemned 17 out of 22 samples of soda-water as adulterated. Soda-water, he considers, should contain an appreciable amount of sodium bicarbonate, five grains per pint being a

reasonable requirement; it should also be made from clean water and be free from lead. Twelve of the samples contained little or no added sodium bicarbonate, and one contained 1 part of lead per 1,000,000, an undesirable quantity. Great variation was reported in the amounts of bicarbonate present, and there were evidences of organic contamination. The report also states that a bottle of ginger-wine, sold as "non-alcoholic" wine, contained 11.8 per cent. of absolute alcohol, and a bottle of orange-wine contained 10 per cent. of alcohol.

Mr. J. Foot, chief sanitary inspector for Bethnal Green, states in his annual report that samples of Gregory's powder (2), sulphur (4), Epsom salt (2), camphorated oil (1), phosphate of soda (1), and glycerin (1) were examined in 1911. All proved to be genuine with the exception of the sample of camphorated oil, which was 15 per cent. deficient in camphor. Proceedings were taken against the vendor, which resulted in a fine of 1*l.* with 1*l.* 3*s.* costs being imposed. The Inspector also states that there have been distributed from the Public Health Department 50 casks of Sanitas powder made up into 3,500 packets, 641 pint bottles of Sanitas fluid, and 361 pint tins of Izal fluid. Half a ton of sulphur candles had been used in the disinfection of rooms throughout the year, one and a-half gallon of formaldehyde, 40-per-cent. solution, for spraying the walls of rooms, and 5 lb. of formalin tablets. Fifteen gallons of creocide was used for disinfection in connection with cases of enteric fever.

**IRISH NEWS.**

When sending newspapers to the Editor please mark the items of news to which you desire to call his attention.

**Pharmaceutical Society of Ireland.**

The monthly meeting of the Council of the Pharmaceutical Society of Ireland was announced to take place on August 7 at 67 Lower Mount Street, Dublin. The following members of the Council attended: Messrs. D. M. Watson (Vice-President), Thos. N. Moffitt, John Smith, W. F. Wells, Thos. Batt, and Dr. J. P. Dunlop. A letter was received stating that Sir Wm. J. Baxter, J.P., D.L. (President of the Society), was unable to attend owing to illness. Those who attended not being sufficient to constitute a quorum, no business was transacted.

**Poison Regulations Promulgated.**

The following regulations regarding the sale of poisons have been published in the "Dublin Gazette":

1. In the sale by retail of any substance to which Section 5 of the Poisons and Pharmacy Act, 1908, applies, the label required by the said section to be affixed to the box, bottle, vessel, wrapper, or cover in which the substance is contained, shall bear, distinctly printed thereon, the additional words, "Not to be taken."

2. In the sale by retail of any liquid substance to which Section 5 applies, such substance shall not be delivered or sent out except in bottles or other containers rendered distinguishable by touch from ordinary bottles or containers.

**Brevities.**

Mr. Michael Leahy, Ph.C., has taken over the business lately carried on by Mr. D. J. Nugent, Ph.C., Dungarvan.

Messrs. Hamilton, Long & Co., Ltd., State apothecaries, Lower Sackville Street, Dublin, are rebuilding the exterior of their premises.

The Antrim County Council has increased the salary of the recently appointed county analyst, Mr. T. R. Hodgson, from 150*l.* to 200*l.* per annum.

The silver cup presented by Mr. John Baxter, chemist and druggist, Ballymoney, for the best gelding or mare four years or upwards, suitable for saddle, on view at the North Antrim Show, has been won by Mr. W. E. Wylie, Coleraine, with a brown gelding. The cup is known as the Baxter Silver Cup.

**OLIVE-CROP OF TUSCANY.**—Consul Frank Deedmeyer, of Leghorn, reports, under date of July 1, that the prospects for a good olive-crop in Tuscany are favourable. The blossoming was abundant, the fruit is developing in a normal manner, and no insects have appeared to date.



## SCOTTISH NEWS.

When sending newspapers to the Editor please mark the items of news to which you desire to call his attention.

### Aberdeen.

Mr. Ashley Watson Mackintosh, M.A., M.D., has been appointed Regius Professor of Medicine in the University of Aberdeen, in the place of Professor David White Finlay, who has resigned. Dr. Mackintosh was educated at Aberdeen University, where he had a brilliant career. He is physician and lecturer in clinical medicine at Aberdeen Royal Infirmary, and has published works on the brain and spinal cord.

### Dundee.

The "Wizard of the North" has a note about the British Pharmaceutical Conference in Edinburgh and a page of sketches entitled "The Chemists' Cinemas (?)." Good sketches of Sir Edward Evans and Mr. J. Rutherford Hill are component parts of the blend.

In connection with the visit to Dundee in September of the British Association, the University of St. Andrews has resolved to confer the degree of LL.D. upon several distinguished foreign scientists who are attending. These are Professor C. E. Borrois, Lille, the geologist; Professor G. Fano, Florence, the physiologist, who has studied especially the functions of the semicircular canals and the physiology of the heart and published papers on peptones in the blood; Professor M. E. E. Gley, Paris, who has written on the physiology of the ductless glands, on hormones, and on the coagulation of the blood; M. Yves Guyot, the economist; Professor H. J. Hamburger, Groningen, the authority on osmotic phenomena in relation to physiology; Professor P. Heger, Brussels, physiologist; Professor C. Julin, Liège, zoologist; Professor H. F. E. Jungersen, Copenhagen, zoologist; Professor H. G. Kayser, Bonn, an authority on spectroscopy and radiation; Professor A. Kossel, of Heidelberg, physiological chemist; Professor F. K. J. Keibel, Freiburg, embryologist; Professor Dr. F. Lindemann, Munich, mathematician; Professor S. J. Meltzer, New York, an authority on the physiology of digestion; Professor H. H. Meyer, Vienna, the pharmacologist; Dr. C. G. J. Petersen, Copenhagen, fishery expert; and Professor M. Werworn, Bonn, physiologist.

### Edinburgh.

A few sprigs of fresh heather make a nice window-decoration at this season. A local pharmacist has set the fashion, and the effect shows it to be well worth copying.

Professor Bayley Balfour, Regius Keeper of the Royal Botanic Gardens, Edinburgh, on August 10 gave the first of a series of Saturday evening botanical lectures in the lecture-hall at the Gardens. The subject was "The Propagation of Plants."

## FRENCH NEWS.

(From the "C. & D." Paris Correspondent)

**TRAGEDY OF MADNESS.**—At Amiens, a druggist named Jules Defruit (49), who had recently been released from a lunatic asylum, being under the impression that his wife was about to leave him, fired two revolver shots at her on August 9. Thinking he had killed her, he blew his own brains out.

**NANCY SCHOOL OF PHARMACY.**—During the course of a recent official visit to the Nancy University, the French Prime Minister, M. Raymond Poincaré, took the opportunity to visit the new buildings and laboratories of the School of Pharmacy there. The Minister was received by the director of the school, M. Godsrin, who was complimented on his untiring devotion to the public good. M. Poincaré added that the Nancy School of Pharmacy had remained true to its traditions, as the successor of the French School of Pharmacy at Strasburg, which existed in the latter town before the war of 1870. At the same time it has attentively followed all the lessons of experience and all the suggestions of scientific progress. Far

from confining itself within the limits of purely pharmaceutical studies, the school has embraced sisterly domains, continued the Minister, such as analyses, biological chemistry, bacteriology, and pharmaceutical industry—in fact, nothing which could complete the general education of the students had been neglected.

**NEW BOOKS.**—In the fourth edition of his "Dérivés Tartriques du Vin" (Mulo, 4.50f.), M. P. Carles, the prominent Bordeaux pharmacist, has brought his well-known work up to date. He points out how wine-dregs can be kept for a year if necessary; how the cement reservoirs or glass receptacles in which the tartaric matters are deposited should be decanted, and how these substances should be sampled. He also gives a list of the principal French and foreign manufacturers of cream of tartar. Besides what is used for home consumption, France exports annually some 20,000,000f. worth of these tartaric derivatives of wine.—Dr. Cabanès has published another volume of his entertaining "Historical Legends and Curiosities." He studies, from his usual medical standpoint, the madness of King Charles VI. of France, the legend of Bluebeard, the history of Agnes Sorel, and various incidents of the great Revolution, including the glass of "blood of aristocrats" which Mlle. de Sombreuil is supposed to have drunk in filial devotion to save the life of her aged parent.

**SUNDAY CLOSING AT LILLE.**—The Sunday closing schemes organised by French pharmacists are not equally successful in all localities, but in some towns the custom is well established. Having to consult the local directory at Lille, the Manchester of France, during a recent visit there, I was struck by the very elaborate table of Sunday closing therein presented. The city has been divided into "quartiers," or districts, and five pharmacies in each quarter remain open. Thus, no pharmacist "keeps open shop" on more than two Sundays or holidays per month, while the names are so arranged that it is not always the same five which are open. The most interesting feature of the programme, however, is the question of closing-hours. In the centre (or business) quarter of the town those not on duty shut all day Sunday all the year round. In the better-class residential districts, the Sabbath rest is all day from Easter to November 1, but from noon only during the winter months; while in certain working-class quarters all the pharmacies are open on Sundays till noon the entire year. These may seem minor details to the outsider, but anyone who has ever tried to organise an early-closing scheme will know how rare it is to find this broad-minded manner of treating matters and this disposition to take into consideration the actual class of business.

**FOREIGN STUDENTS AT PARIS.**—The French Minister of Public Instruction has recently issued a new decision with regard to foreign students who come to Paris with the object of taking University degrees, including those of Doctor of Medicine and Pharmacist. In order to be admitted to the University, included in which is the Paris School of Pharmacy, it is necessary to have passed the preliminary Baccalauréat, or B.A., examination, but foreign students will now be excused the rather onerous task of passing it, provided they produce the originals of diplomas or certificates delivered by a University or scholastic centre in their own country which the Paris University may consider as the equivalent of the Baccalauréat. Such originals must be accompanied by translations made by a sworn translator, and be signed and certified as exact by a French Consul-General in the country from which they come, or by the Diplomatic or Consular representative of that country in France. The Consulting Committee of Public Teaching is charged with deciding if such diplomas or certificates can be accepted, the documents being in the first place submitted for the approval of the authorities of the School of Pharmacy or Faculty interested. This decision is a somewhat important one, as it will relieve foreign students who desire to take a French diploma or degree of the necessity of passing the preliminary examination of educational efficiency which was imposed by the somewhat drastic measures concerning foreign students introduced here some years ago.

## AUSTRALASIAN NEWS.

"The Chemist and Druggist" is regularly supplied by order to all the members of nine Societies of Chemists in Australia and New Zealand, and to many other Chemists in business there.

### New South Wales.

A EUCALYPTUS PIONEER.—Mr. A. N. Coleman, sen., whose death, at the age of seventy-five, took place recently at Newtown, Sydney, claimed to have been the founder of the eucalyptus industry in New South Wales. Indeed he is said to have been the discoverer of the value of the tree. He started his factory at Cootamundra nearly forty years ago, and for many years up to the time of his death conducted a shop in King Street, Newtown, for the purpose of disposing of his product.

### New Zealand.

THE COST OF LIVING.—The New Zealand Government has set up a Royal Commission to inquire into the cost of living and the advance in prices of daily wants. In the New Zealand drug-trade prices have fallen, while expenses have increased, which is unusual. Probably no other trade is in a similar position.

HYPODERMIC TABLETS.—The Health Department is considering the advisability of adding a clause to the Food and Drugs Act restricting the sale of hypodermic tablets to chemists only. This means that in future nurses will not be able to supply the tablets, and will considerably safeguard the public. Users will require a medical order before they will be able to obtain them.

PRICE PROTECTION.—Strong efforts are being made in New Zealand to start a P.A.T.A., and already three of the largest associations have the matter in hand. In Auckland the chemists have already approached the grocers with fairly favourable results, and since the Pharmacy Conference their work has been even more vigorous. In Duredin the Association has considered the subject and is moving, while the Federation in Wellington is active. A conference of visitors was held when the Pharmacy Board sat, and the following committee was set up to confer with the wholesalers, namely: Messrs. L. McKenzie, F. Castle, A. Hobson, C. Palliser, and W. Wallace (Hon. Secretary). They have already interviewed the representatives of the New Zealand Wholesale Association—namely, Messrs. W. Larkin, W. Jack, and A. Young—when Messrs. A. Hobson and W. Larkin were appointed as a committee to draft rules and submit them to another meeting.

CLUB DISPENSING.—A correspondent in "The Chemist and Druggist of Australasia" states definitely that lodge or club work does not pay. He writes that on January 1 last he purchased a retail drug-business and took over the lodge members, numbering 850. His predecessor had dispensed for the members for six years, but kept no record of what it cost him. Since taking over the business fairly careful records have been kept, and the chemist finds he is out of pocket. His income from the lodges is 5s. 6d. a member a year for 312, and 6s. for the balance. Total yearly income, 244l. 8s. An extra assistant at 2l. 10s. per week has to be kept on account of this work—130l. a year—leaving 114l. 8s. a year to pay for drugs, bottles, corks, labels, etc. Prescriptions have averaged 93 a week—mostly 8 and 6 oz. Four-oz. A.B.C. liniments are fairly frequent. Bottles have to be provided at above prices. Taking the average prescription as costing 5d., which is certainly low when the bottle is included, this totals 100l. 15s., or a cost (including wages) of 230l. 15s., a difference in favour of the chemist of 13l. 13s. This looks like a profit, but against it is the fact that a considerable amount of private trade is lost on account of private customers not being able to obtain as prompt and careful attention as they would were no lodge-dispensing done. Lodge patients come in groups, three, four, five, and six being in the shop at one time—and private customers, noticing an apparently full shop, often go elsewhere.

### South Australia.

THE SALE OF POISONS.—The Executive Council on July 4 approved of the regulations made under the Food and Drugs Act, 1903, regarding the sale of poisons. These deal with the sale of poisons, and provide that poisons shall be any of the following substances:

List A.—Aconite; arsenic; cocaine, its salts and derivatives; corrosive sublimate; cyanide of potassium and all poisonous cyanides; ergot of rye and its preparations; morphine, its salts and derivatives; prussic acid; savin and its oil; strychnine, its salts and derivatives; all poisonous vegetable alkaloids, their salts and derivatives not specifically named in this list.

List B.—Arsenical preparations, except paints and pigments; belladonna; cantharides; carbolic acid; chloral hydrate; chloride of antimony; chlorodyne; chloroform; creosote; digitalis; essential oil of almonds (unless without prussic acid); laudanum; lysol; medicinal preparations containing a poisonous vegetable alkaloid, its salts or derivatives; nux vomica; oxalic acid and its soluble salts; opium; phosphorus (except red phosphorus); red precipitate; strong mineral acids; sugar of lead; tartar emetic; vermin-killers; white precipitate.

It is stipulated in the regulations that

No person shall sell any poison unless the immediate container bears on it the name of the poison, and the word "Poison" conspicuously printed, together with the name and address of the seller thereof.

No person shall sell any poison specified in List A to any person under the age of eighteen years, nor to anyone who is unknown to the vendor unless in the presence of some witness, and before delivery of the poison an entry shall be made in a book, and shall be signed by the purchaser, witness, and vendor.

Sales may be made to a written order signed by the purchaser, but no person shall sell poison so ordered to any person with whose signature he is not acquainted, unless such signature shall have been witnessed, or purport to have been witnessed, by a justice, clergyman, or public officer, or be authenticated by some person known to the vendor.

No person shall sell any arsenic or strychnine, or any preparation of the same respectively, unless in the case of arsenic and any uncoloured preparation of the same, such poison shall be mixed before the sale or delivery thereof with soot or powdered charcoal in the proportion of 1 oz. of soot or powdered charcoal at least to 1 lb. of arsenic, and so in proportion for any greater or less quantity; and, unless in the case of strychnine, or any uncoloured preparation of the same, such poison shall be coloured with Armenian bole or other red colouring-matter before the sale or delivery thereof. Whenever the purchaser states that such arsenic or strychnine, or any preparation thereof respectively, is required not for any pastoral or agricultural use, but for some other purpose for which such admixture would according to the representation of the purchaser render it unfit, such poison may be sold without the admixture hereinbefore specified.

All strong mineral acids, liniments, embrocations, lotions, and liquid disinfectants, antiseptics, or deodorants consisting of or containing poison dispensed, sold, or delivered by any person shall be delivered in bottles rendered distinguishable by touch from ordinary medicine-bottles, and there shall also be affixed to each bottle (in addition to the particulars required by this regulation) a label stating that the contents are not to be taken internally.

No person other than a legally qualified medical practitioner or a registered pharmaceutical chemist shall sell any poison unless he hold a licence from the Central Board of Health. This does not apply to photographic material except that containing a poison in List A, nor to the sale of fly-poison paper.

Every vendor of poisons, other than legally qualified medical practitioners or registered pharmaceutical chemists, shall keep all poisons in a cupboard or room of such dimensions and containing such shelves as the Central Board of Health may direct. The word "Poisons" shall be conspicuously painted or written on the door of such cupboard or room, and no articles other than such poisons shall be placed or kept therein. This shall not apply to the sale of any poison when made up or compounded as a medicine (a) by a legally qualified medical practitioner, or (b) by a registered pharmaceutical chemist, or (c) by a veterinary surgeon for animals under his treatment, or (d) in the form of homeopathic medicine, unless in the crude state, mother-tincture, or of a greater strength than the third decimal potency of arsenic or corrosive sublimate or of a greater strength than the second decimal potency of any other poison.



## SOUTH AFRICAN NEWS.

(From "C. & D." Correspondents.)

"The Chemist and Druggist" is regularly supplied by order to all the members of the seven Societies and Associations of Chemists in British South Africa, as well as to other chemists in business there.

### Cape Province.

**FOREIGN TRADE.**—Speaking in the Cape Town Chamber of Commerce on August 12 (says "The Times" correspondent), the President, Mr. Jagger, made an interesting comparison of the trade returns ending June 30 with those for the corresponding period of last year. The figures show an increase of 12 per cent. in the exports, and the excess of exports over imports has risen by three millions sterling to eleven and a half millions. "In my opinion," concluded Mr. Jagger, "the trade of this country at the present moment is in a very satisfactory condition and on a sound basis. There is no overtrading going on so far as the greater part of South Africa is concerned."

**PHARMACEUTICAL SOCIETY OF CAPE PROVINCE.**—A council-meeting was held on July 18 at the Society's Room, 65 Hout Street, Mr. J. Austin Thomas in the chair. Routine work occupied the larger part of the evening. A letter was read from Mr. Marcus tendering his resignation. At the ensuing ballot Mr. W. J. H. Thomas was elected to take the place of Mr. Marcus, he having received the largest number of votes. On the proposal of Mr. Peck, it was decided to send a letter to Mr. Marcus in appreciation of services rendered during his term of office as Secretary. It was decided to invite Major Liebman, M.A., to give an address on ambulance matters, in view of establishing a chemists' division of the St. John's Ambulance.—It was resolved that the next smoking concert be held on or about September 4. A host of minor matters came up for discussion, the proceedings being rather lively for a considerable time. Councillors Dell and Tothill were the chief speakers.

**LETTERS OF CREDIT.**—The litigation that has been going on between Martin, Elgar, Ltd., Cape Town, and F. Stearns & Co., Detroit, is about to be settled out of court, F. Stearns & Co. paying the costs. It would appear that early in the year 1910 Messrs. Stearns furnished Robert Rowlette Martin, a director of Martin, Elgar, Ltd., with certain letters of credit, placing them to the debit of Martin, Elgar, Ltd., with whom they had a contract. The letters of credit were for convenience made out in favour of R. R. Martin. Mr. Martin died at sea while a passenger on the s.s. *City of Vienna* bound from Bombay to Liverpool on May 3, 1910, and his effects, together with all monies found, were handed over by the steamship agents to the American authorities at Liverpool, who in turn handed them over to the relatives. As the late R. R. Martin's account was overdrawn at the head office at Cape Town, payment of the letters of credit was stopped by cable, and failing a satisfactory issue Martin, Elgar, Ltd., secured an interdict in South Africa on the property of F. Stearns & Co., and thus established jurisdiction in that country. This course was adopted not only to protect the American firm, but their Cape Town agents as well. As before stated, the matter has now been practically settled out of court, and a representative of the American concern is due in South Africa, presumably to put the finishing touches to the issue. In commenting on this case, our correspondent says that exporters sending out representatives abroad and financing by means of letters of credit will do well to see that emergencies are prepared for. The holder of a letter of credit should not only carry a passport when travelling abroad, but special provision should be made in his will to protect those issuing the letter of credit, since if paper money is found among the effects after death the money is assumed to have been the personal property of the deceased, and expensive law costs are liable to ensue. It is stated that the costs involved in the case of Martin, Elgar, Ltd., v. F. Stearns & Co. is out of all proportion to the amount or value of the letters of credit.

**A CHEMIST'S INSOLVENCY.**—The third meeting of creditors in the insolvent estate of Mr. R. S. Smiles,

chemist and druggist, Mowbray, near Cape Town, and Koffyfontein, O.F.S., was held in Cape Town on July 19, when the trustee submitted a report, the following of which is a summary:

This estate was placed under sequestration on May 8 upon the petition of the debtor. Debts amounting to 1,901*l.* were proved on May 23, and a trustee was appointed. The financial position of the estate on the date of sequestration was as follows: Assets—In the Cape Province—landed property, 400*l.*; stock-in-trade, fixtures, and chattels, 529*l.*; book debts (of which 1,478*l.* are doubtful), 1,548*l.*; and other assets, making a total of 2,513*l.*; in the Orange Free State—stock-in-trade and other chattels, 279*l.*; book debts, 78*l.*; total, 357*l.* Liabilities: Cape Province—2,345*l.*; Orange Free State—743*l.*, showing a gross deficit in the estate of 217*l.* It has been necessary to retain the services of the former manager of the business at Mowbray, at a fixed salary. The same course has been adopted in respect to the business at Koffyfontein, but in that case the services of the debtor have been retained at a stated salary. The debtor has been in business for approximately twenty years, and up to about 1901 he appears to have been moderately prosperous, but in that year he entered into partnership for the purpose of continuing a mineral-water undertaking, which he had formerly carried on, whereby the incoming man was to have contributed the sum of 650*l.* as his share of the new firm's capital. This sum was paid by the mother of the incoming partner, and a joint acknowledgment of debt was obtained by her from her son and the debtor. In 1904 the assets of the partnership business were sold to a firm known as "Friedberg, Cohen & Co., but that firm only paid a small portion of the purchase money, and then very shortly became insolvent. The debtor has asked for leave to trade in his own name, and your trustee is of opinion that as this is one of those very hard cases where misfortune, and not misconduct, has been the true cause of failure, I feel justified in recommending to the creditors that such leave to trade in his own name be forthwith granted. Moreover, the books of account have been properly kept, and your trustee has conferred with almost every one of his trade creditors, most of whom have dealt with him for upwards of twenty years, and without a single exception, and notwithstanding any "book" loss they may suffer, they speak of him as a man possessing an unimpeachable character.

It was resolved that the trustee's report be adopted and confirmed, and that the further administration of the estate be left in the hands of the trustee.

### Natal.

**PERSONAL.**—Mr. Frank Turner, head of the firm of Messrs. Turner & Co., wholesale and retail chemists, Maritzburg, Natal, and Johannesburg, Transvaal, is expected to arrive in London at the end of August. Mrs. and Miss Turner are already on this side.

### Orange Free State.

**PERSONAL.**—Mr. R. C. Streeten, Secretary of the O.F.S. Medical and Pharmacy Council, left on July 23 for a six months' holiday in Europe accompanied by his family. During his absence Mr. Advocate Beck will act as Secretary and Registrar.

**BUSINESS CHANGES.**—Mr. L. Greaves, lately joint-manager of Messrs. C. E. Gardner & Co.'s wholesale business at Bloemfontein, is opening a business on his own account at Kroonstad.—Mr. McRobb, chemist and druggist, lately with Messrs. Lennon, Ltd., at Doornfontein, is starting in business on his own account at Smaldeel, O.F.S.

**THE USUAL MONTHLY MEETING** of the O.F.S. Pharmaceutical Society was held at Bloemfontein on July 9, the President, Mr. J. Rawling, occupying the chair. The Secretary, Mr. S. S. Hewitt, read a paper on "O.F.S. Laws affecting Chemists," and drew the attention of the members to clauses in between thirty and forty laws which directly affect chemists in relation to their businesses. He divided his subject into five sections, relating to professional and personal matters, sale of goods, diseases, trading regulations, and debts. The meeting was attended by Mr. C. L. Botha, barrister and M.P. for Bloemfontein, who made an interesting speech, especially referring to chemists under the new Defence Force Act and the difficulties in the way of consolidating the laws of South Africa owing to diversity of local interests and customs throughout the Union.



## INDIA AND THE EAST.

(From the "C. & D." Correspondents.)

THE FEDERATED MALAY STATES GOVERNMENT is about to build a hospital at Ipoh at a cost of 64,000*l*.

PROPOSED FOOD AND DRUGS BILL.—A Government *communiqué* published in "The Pioneer" of Allahabad, dated July 18, states that among other Bills to be introduced at the next meeting of the United Provinces Legislative Council, to be held at Allahabad on August 1, are the United Provinces Village Sanitation Bill and the United Provinces Food and Drugs Bill.

ANALYTICAL LABORATORY FOR RANGOON.—Messrs. E. M. de Souza & Co. recently asked the Burma Chamber of Commerce for an expression of opinion as to the need in Rangoon of an analytical laboratory, and the Chamber replied that they would encourage such an undertaking so far as lay in their power. In their opinion there seemed to be an opening and promise of work, but they could not in any way guarantee results.

PURE FOOD AND DRUGS IN CEYLON.—A Committee has been appointed to consider the draft of the Bill introduced by Government at the Ceylon Legislative Council on April 23 for the better provision for the sale of pure food and drugs. The Committee is to consist of the Hon. Mr. Anton Bertram, Attorney-General; Mr. C. R. Cumberland, acting Mayor of Colombo; the Government Analyst; Dr. Marshall Philip, medical officer of health; and Mr. H. J. Martin, manager of Cargills & Co.

COREAN GINSENG.—The exports from Corea (a Government monopoly) dropped in value from 87,281*l*. in 1909 to 7,148*l*. in 1911. This decline is due partly to the ravages of bacteria, which the authorities have been endeavouring to exterminate for some years, and partly to the fact that the 1911 crop has not yet been shipped, owing to the disturbed state of affairs in China—the destination of the ginseng exported. The harvest in 1911 was an improvement on the previous year's, and more optimistic views are now held as to the future of the industry.

PERSONAL.—Captain B. Higham, I.M.S., who has been appointed chemical analyst, Sind, has assumed charge of his duties. The appointment was sanctioned about seven years ago, and the delay in filling it was due to the time which has been allowed to elapse in providing funds for and constructing the chemical laboratory, which is now completed.—Mr. A. M. Stewart, of Penang, Straits Settlements, was in the final tie in the P.C.C. Lawn Bowls Championship played at Penang. Although Mr. Stewart is a comparative "griffin" at the game, the contest was exciting. His opponent, Starr, one of the oldest lawn-bowl players, won, the final score being Starr, 21; Stewart, 14.

OPIMUM IN CHINA.—The imports of foreign opium into Amoy in 1911 declined by about one-third—from 3,994 cwt. to 2,778 cwt.—and the import of Chinese opium also showed a large decline—from 1,156 cwt. in 1910 to 175 cwt. in 1911. In 1910 no opium poppy was planted in the Amoy district, but during the temporary relaxation of official authority caused by the revolution large areas were replanted with the poppy. The importation of Persian opium ceased from December 31, 1911. The average price of Berarese opium was \$3,420 (about 330*l*.); of Persian, \$2,595 (about 240*l*.) per chest, including duty. Malwa opium was not consumed locally, but sent to Swatow district. Some fifteen chests of Patna opium were imported as an experiment. Measures taken by the Chinese Anti-Opium Society under Government support checked local sales by reducing the number of smokers. After the revolution commenced the fear of being robbed *en route* prevented purchasers coming from the interior, and this, coupled with speculative prices, forced up by large holders, checked sales.

INDIAN TRADE IN DRUGS AND MEDICINES continues to grow. The total value of drugs and medicines imported during the official year 1911-12 was Rs. 193.99 lakhs (693,300*l*.), as compared with Rs. 98.54 lakhs (656,900*l*.) in 1910-11, the advance being Rs. 5.45 lakhs (36,300*l*.), or

5.5 per cent. Imports of camphor advanced from 1,251,313 to 1,505,636 lb.—20.3 per cent.—in quantity, and from Rs. 13.91 lakhs (92,700*l*.) to Rs. 17.08 lakhs (113,900*l*.)—22.8 per cent.—in value. Thus there was a rise of 2.2 per cent. in the average value in the year under review. The Government of India appears to have purchased less quinine in Amsterdam last year and more from Java direct. The imports receded to 125,379 lb., in place of 128,149 lb., but the value advanced from Rs. 10.95 lakhs (73,000*l*.) to Rs. 11.62 lakhs (77,500*l*.). Thus the quantity declined by 2.2 per cent., while the value advanced by 6.1 per cent. Proprietary and patent medicines practically maintained the level of the previous year at Rs. 25.91 lakhs (172,700*l*.). Other sorts, on the contrary, showed an improvement of Rs. 2.74 lakhs (18,200*l*.)—from Rs. 37.6 lakhs (250,700*l*.) to Rs. 40.34 lakhs (268,900*l*.).

INTOXICATING DRUGS DEFINED.—The "Gazette of India" of July 6 contains a notification (No. 46) dated June 27, 1912, to the effect that the following articles shall be included in the definition of "intoxicating drugs" for the purposes of the Excise Act, No. 12 of 1896, so far as applied to the Civil and Military Station of Bangalore:

- (1) Coca-leaves, alkaloids of coca, every other intoxicating drink or substance prepared from the coca-plant (*Erythroxylum Coca*), and all drugs, synthetic or other, having a like physiological effect to cocaine; and
- (2) Every preparation and admixture of any of the above.

The same issue of the "Gazette" also states that the above-mentioned notification shall not be applicable to such drugs possessed in accordance with the conditions of a licence granted under the provisions of the said Act by a person authorised to sell them, or who employs or uses them in the exercise of his profession as a qualified medical practitioner, or to such drugs which have been purchased from a duly authorised vendor for medical purposes on the prescription of a qualified medical practitioner.

## JAPANESE JOTTINGS.

(From the "C. & D." Correspondent.)

PATENT MEDICINES AND LOTTERIES.—The "Peking Daily News" reports that a Japanese house engaged in the sale of a patent medicine called "Jin-tan," in order to induce patronage, has by advertisements in the local vernacular Press offered lottery tickets to purchasers entitling them to draw prizes from \$500 down to \$1. A strong protest is entered against such methods.

TOOTH-BRUSH AND TOOTH-POWDER TRADE.—China imports about 50,000*l*. worth of tooth-brushes from Osaka, Japan, annually (says the American Consul at Yokohama), the manufacturers in that city also furnishing the United States with about 250,000*l*. worth, Canada with about 25,000*l*. worth, and Australia, India, and several European countries with material quantities. The use of foreign toilet-requisites in the open ports in China is increasing, not only in keeping with the increase in foreign population, but also because of the greater demand for such articles from the well-to-do Chinese. The manufacture of tooth-powder for use of the Chinese is a flourishing industry in Hong-Kong and in several of the open ports of China.

KOREAN MEDICINE ACT AND DRUGGISTS.—The "Oriental Physician and Druggist" of Tokyo gives details of how the new Medical Act in Korea, gazetted on March 28, is affecting the drug-trade in Korea. Several conferences have been held in Korea and Tokyo, as the result of which various committees have been formed to confer with the Japanese Government authorities. On June 25 a large meeting was held in Korea, when medicine-dealers from all parts of the country were present; as the result of a full discussion it was resolved to lodge a petition praying for the Act to be amended. Articles 5 and 6 point out that druggists in Korea will not be able to sell a medicine although they have already got the permission of the Japanese Home Office: a permit must be obtained in Korea by again reporting the method of preparation, quality, quantity, effect, use, price, etc., of the medicine.



## National Health Insurance.

### APPROVED SOCIETIES.

The list of Societies approved under the National Insurance Act by the National Health Insurance Joint Committee and the National Health Insurance Commissioners for England, Scotland, Ireland and Wales is now becoming a formidable document. The last issue gives the names of all Societies approved up to July 31, and includes a large number of Societies for different trades. The Chemists' Friendly Society figures in the list.

### ADVISORY COMMITTEE.

The medical members of the Advisory Committee who had been advised by the British Medical Association to cease to act in that capacity have refused to take the Association's advice. In a resolution signed by all the members it is stated that "we have carefully considered our position, and, with a full sense of our responsibility, are of opinion that for the present it is our duty to remain members of the Committee."

### THE COMMISSIONERS' OUTDOOR STAFF.

The National Health Insurance Commission (England) state that the Committees of Selection appointed to make recommendations in regard to the candidates (male and female) for appointment to the outdoor staff of that Commission have now made their reports. Notification has been sent to those candidates who, having been interviewed by the Committees, have, or have not, been selected to undergo the written examination. Applicants who have not been interviewed are to understand that they have not been successful.

### INSURANCE COMMITTEE'S DUTIES.

In the House of Commons on August 7 the Secretary to the Treasury informed Mr. Landon that it is not compulsory upon County Health Committees to form sub-committees for the purpose of the National Insurance Act so far as sanatorium benefit is concerned. He also stated that the persons who are made members of Insurance Committees by the various Orders setting up the committees will hold office until the date on which it is declared by the Insurance Commissioners that an Insurance Committee has been duly constituted for the county or county borough, or until July 15, 1913, whichever date is the earlier. The Orders, however, in each case reserve power to replace the persons who are now representing insured persons on the committees by persons duly appointed under paragraph (a) of Sub-section (1) of Section 59 of the Act as soon as an appointment can be properly made under that provision.

### SANATORIUM BENEFIT EXPENSES.

The National Health Insurance Commissioners have issued an order stating that, for the purpose of defraying the expenses of sanatorium benefit during the period between July 15, 1912, and January 12, 1913, there shall be deducted from the amounts standing to the credit of deposit contributors and from the amounts standing to the credit of approved societies such sums as may be determined by the Commissioners to be necessary for the purpose of meeting the expenditure incurred in connection with the provision of sanatorium benefit during the period, not exceeding, in the case of a deposit contributor, 1*d.* for every four contributions paid in respect of him during the period, and not exceeding, in the case of an approved society, 1*d.* for every contribution credited to the society in respect of the period. All sums so deducted are to be transferred to the proper Insurance Committees. No deductions are to be made from the amounts standing to the credit of deposit contributors not entitled to sanatorium benefit, and contributions from such depositors are not to be taken into account in calculating the amount to be deducted from the amount standing to the credit of an approved society. In the application of this order to aliens "three" is to be substituted for "four" and 1*d.* is to be substituted for 1*d.*

### THE MEDICAL BENEFIT.

Reviewing the present attitude of the medical profession towards the medical benefit under the National Insurance Act, "The Lancet" seems to see a ray of hope in the publication of the medical regulations by the Insurance Commissioners:

When the regulations appear, and not till then, the medical profession will be able to decide whether the offers made are such as would enable them to discharge efficiently, and with dignity and fair reward, the duties involved. The State Sickness Insurance Committee of the British Medical Association will, no doubt immediately upon their issue, report upon the regulations and any accompanying memorandum, to the Representative Body of the Association, who will direct the future action of the Association. Peace with honour may ensue; the result depends entirely upon how far the Chancellor has realised the strength of the opposition to the Act as it stands.

These draft regulations are not to be issued until September, states the "British Medical Journal." They are to be accompanied, "or more probably, followed," by a report of the Insurance Commissioners on the question of remuneration. This report is being prepared for the Commissioners by a committee, which has been instructed to take into consideration Sir William Plender's report and all other communications on the subject submitted by organisations or individuals. The "British Medical Journal" is chafing under the delay, which is, perhaps, a sign that a little anxiety is concealed under the don't-care attitude, which has been the only one apparent lately with the medical profession. In another part of the "British Medical Journal" it is stated that "the medical profession has made up its mind in any events to end these scandals and nightmares," referring to contract practice. There is also a statement about establishing a general system . . . for rendering efficient medical service in return for adequate payments. Several schemes are mooted by medical men, and "The Nation" makes proposals to establish a State medical service in preference to returning the pecuniary equivalent of medical benefit.

## The Shops Act, 1912.

The following are brief particulars of recent local arrangements:

**Birkenhead.**—The Town Council have now issued an order for closing chemists' shops on Thursdays.

**Bootle.**—The Town Clerk reported at the last meeting of the Bootle Town Council that notice had been given of the Council's intention to extend the weekly half-holiday order to chemists' shops. No objections to the order or suggestions as to the provisions thereof have been received.

**Bristol.**—The City Council have made a closing order for chemists for Wednesdays.

**Chester.**—The City Council issued an order extending the provisions of the Act to chemists and druggists, and fixing Wednesday as the early-closing day.

**Gosport and Alverstoke.**—The Urban Council have issued an order for chemists and druggists to close on Wednesdays.

**Lincoln.**—No objections having been received, the Lincoln City Council on August 7 confirmed the draft order made for the closing of chemists' shops on Wednesdays.

**Richmond.**—Eleven of the pharmacists in the Borough of Richmond (Surrey) have petitioned the Town Council to make an order closing all the chemists' shops at one o'clock on Wednesdays. There being the necessary majority in favour of the order, the Town Clerk has been instructed to give notice of the Council's intention to make the order.

**Walsall.**—A committee of the Town Council has considered a petition from chemists and druggists in respect to a half-day closing, and has decided to defer consideration of the matter until a more general agreement has been come to among shopkeepers as to the most convenient day.

**Waterloo-with-Seaforth.**—The Urban District Council has given notice of its intention to make an order fixing Wednesday as the day for the weekly half-holiday for all trades or businesses carried on within the urban district.

THE EXPORTS OF QUICKSILVER from Seville during 1911 amounted to 1,463 tons, against 1,288 tons in 1910.



## LEGAL REPORTS.

### TRADE LAW.

**Shops Act.**—At Bow Street Police Court on August 9, Sir A. de Rutzen had before him the adjourned summonses issued at the instance of the London County Council against a number of tradesmen in the Strand for not closing their premises in accordance with the provisions of the Shops Act, 1912. The cases had been adjourned to enable the prosecuting solicitor to produce his authority from the London County Council to institute proceedings, but Mr. J. W. Godfrey now said that he did not propose to prove that the proceedings were authorised by the County Council. Anyone might lay an "information" in a criminal case unless there was some limitation imposed by statute. The Magistrate eventually adjourned the summonses *sine die*, because an application had been made some time ago for an exemption order, and no action had been taken by the Council. He said that if the Council granted the exemption order there would be an end of the matter. If, on the other hand, exemption was refused, the summonses would be restored to the list, and he would deal with them on their merits. He refused a request by Mr. Godfrey to make a condition that the defendants should undertake to conform to the Act in the meantime.

### Sale of Food and Drugs Acts.

#### SWEET SPIRIT OF NITRE.

At the Shrewsbury Police Court on August 3, Mr. John Langley Henshaw, chemist and druggist, 75a Wyle Cop, was summoned for selling 3 oz. of sweet spirit of nitre which the analyst certified to be 66 per cent. deficient in ethyl nitrite. Mr. Clarke, for the prosecution, said no dishonest motive was imputed to defendant. Mr. E. P. Lewis, for the defence, elicited from the defendant that the drug, which he kept in 2-oz. bottles, is liable to rapid deterioration. Addressing the Bench, Mr. Lewis mentioned that in response to representations made to the General Medical Council by the Chemists' Defence Association, the standard of the Pharmacopœia will probably be lowered shortly. The Chairman said the Bench considered the charge proved. The deficiency was rather serious, but having regard to the fact that the prosecution did not impute fraud to Mr. Henshaw—and with this the Magistrates quite agreed—they thought the case would be met by requiring the defendant to pay the amount of the costs, 18s. 6d.

### Medicine-stamp Acts.

#### UNSTAMPED MEDICINES.

At Merthyr Borough Police Court on August 13, before Sir T. M. Williams (Stipendiary), James Archibald Malpass, Market Street, Dowlais, was summoned on five counts for exposing for sale and selling certain medicine liable to duty without a stamp and without a licence. Mr. L. G. Dawson, Solicitors' Department, Customs and Excise, London, prosecuted, and said that the medicines sold unstamped included "Woodbrook's Little Liver Pills," "Woodbrook's Back and Kidney Pills," "Woodbrook's Head and Stomach Pills," and "Woodbrook's Bile Beans." Defendant, who said he had only opened the shop four days when the officer called, pleaded ignorance. A gentleman in Merthyr purchased the pills for him. He had sent the pills back. The Stipendiary: You are liable to a fine of 10l. in each case, which would come to 60l. Defendant: I haven't got ten pence. The Stipendiary said that the defendant was not a "professional quack," so he would be let off very lightly. He was fined 5s. and costs for exposing the goods for sale, and the other cases were dismissed on payment of costs.

## BANKRUPTCY REPORTS.

**Re Robert Tocher, Ph.C.,** Glasgow.—Mr. R. T. Dunlop, 58 Renfield Street, Glasgow, the trustee of this estate, states that a first dividend will be paid on August 30 to those creditors whose claims have been lodged and admitted.

**Re Macnaught Brothers,** Greenock, Wholesale Chemists.—The trustee (Mr. G. D. Stirling, C.A., 93 West George Street, Glasgow) has declared a first dividend of 1s. 6d. in the pound, payable to those creditors whose claims have been lodged and admitted.

**Re Goldon & Co.,** Duke Street, Birr, Pharmaceutical Chemists.—The statement of affairs of Henry V. Goldon, trading as above, shows liabilities 1,790l., and estimated net assets, after deducting cost of proceedings, etc., 506l. At a meeting of the creditors in Dublin last week an offer was made of 4s. in the pound, in three instalments spread over twelve months, but no definite resolution was passed. Among the creditors are: Hayes, Conyngham & Robinson, Ltd., Dublin, 239l.; Evans Sons Lescher & Webb, Ltd., 140l. 15s.; The British Drug Houses, Ltd., 126l. 10s.; Boileau & Boyd, Dublin, 92l. 15s.; Ayrton, Saunders & Co., Ltd., Liverpool, 72l.; A. & R. Thwaites & Co., Ltd., Dublin, 54l.; W. Cooper & Nephews, Berkhamstead, 38l. 5s.; S. Maw, Son & Sons, 30l. 15s.; Parke, Davis & Co., 27l. 15s.; Southall Bros. & Barclay, Ltd., Birmingham, 24l. 15s.; Allen & Hanburys, Ltd., 20l.; Timpson & Co., Ltd., 19l. 5s.; Wm. Hoey & Co., Dublin, 17l. 15s.

**Re T. Howard Lloyd & Co.,** Leicester and Nottingham, Wholesale Druggists.—The first meeting of creditors was held at the offices of the Leicestershire Trade Protection Society, Leicester, on August 12. Mr. Evan Barlow, the Official Receiver, said both partners in the business, Mr. T. Howard Lloyd and his son, were before the meeting as bankrupts. He could not suggest there was any benefit from the point of view of the creditors that Mr. Lloyd, jun., should be bankrupt, but it was certainly beneficial to the creditors in another matter, because otherwise there might be some difficulty, possibly litigation, between the Nottingham creditors and the Leicester creditors. The Official Receiver then explained that out of 400 creditors 131 had proved for 74,667l. 7s. 10d. out of gross liabilities amounting to 74,000l. odd. Some of these were with respect to trade debts, but with certain exceptions. The exceptions were as follows: Mrs. E. M. Lloyd proved for 103l.; Mr. E. F. Lloyd, 245l.; Mrs. R. A. Lloyd, the junior debtor's wife, 102l.; and the Northamptonshire Bank, 6,802l. 13s. 3d. The bank was guaranteed up to 6,000l., and held collateral securities, so was reasonably secured. Another proof was lodged by Mr. F. W. Harris for 1,126l. 16s. 3d., and he held a one-third mortgage on the debtors' factory and valued security at 500l. The only other proofs to which he need call attention at the moment were in respect of three of the Harris family. Mr. F. W. Harris, as executor of the late Mr. Samuel Harris, proved for 16,212l. 12s. 10d., but of that for voting purposes only 8,876l. would be admitted, because in the next proof, by three of his sisters, they were duplicated as regards one item. Three daughters of the late Mr. Samuel Harris proved for 12,713l., and two of the same daughters also proved for 35,602l. 16s., so that of total proofs lodged creditors to the amount of 67,000l. were admitted for voting purposes. As there was no proposal forthcoming, the business of the meeting was to appoint a trustee. He had special proxies amounting to upwards of 53,000l. Six of these were for the appointment of Mr. E. P. Stead and Mr. C. H. Spencer, of Messrs. Wykes & Co., Chartered Accountants. The appointment of these two trustees was agreed to, and a committee of inspection appointed as follows: Messrs. David Lloyd Howard (who remarked amid laughter that he was no relative of the debtors), Spate, Reed (for the Harris family), Grant, and Widdowson. The appointment of Mr. Spencer as special manager at a salary of 5l. 5s. per week was approved. The Official Receiver then proceeded to give some details of the working of the business. A statement of affairs shows gross liabilities 74,073l. 17s. 3d., of which 66,872l. 10s. 1d. was expected to rank for dividend. The assets were estimated to produce 7,278l. 14s. 7d., leaving a deficiency of 59,593l. 15s. 6d., including 300l. cash at bankers, 3,000l. for stock which had been written down, and 3,500l. book debts. The freehold property was put at 13,000l. in the balance-sheet, with mortgages thereon amounting to just under 7,000l., while in the bankruptcy for the purposes of these proceedings 6,250l. had been written off the property. The stock stood approximately at 7,000l., and that for the purpose of realisation had been written down to 3,200l. The machinery in the balance-sheet was put down at 1,000l., but that was now estimated to produce 200l., a deficiency of 800l. These few items explained at least 10,000l. of the debtors' present deficiency. There were duties that a trustee, with the help of the committee of inspection, would have to perform, and those large proofs of 33,000l., 12,000l., and 16,000l. would have to be gone into. It might be questioned whether some of the notes given by the debtors had not become "statute barred." That would have to be looked into. Another important question that would have to be dealt with by the trustee and the committee was to what extent the large proofs were proofs against the personal and separate estate of the senior debtor. If they were partnership liabilities they were provable against the partnership assets, and so much the worse for the general trade creditors. As to the firm's trading career, certainly never in his experience had



he ever come near anything so unusual as this bankruptcy. After taking into account the interest on borrowed capital and interest at the bank, and charges for banking facilities, the firm made a loss on their business every year from the commencement to its close, with one exception—the year 1900-01, when they made on paper a profit of 500%. That would be more than accounted for by the surplus the firm received from the Corporation when they sold their property in 1900 and removed to Humberstone Gate. He thought there was a margin of some 6,000% on that transaction. In all the other years there was a heavy loss, and the losses in twenty-two years amounted to 37,600%. It should be added that the senior debtor drew during that period about 12,000%, which, with between 10,000% and 12,000% in depreciation, made about 60,000% total loss. The senior debtor of late years had drawn but reasonably from the business. It had not exceeded 400% per annum during the last five years. The losses on the business averaged anything in the twenty-two years from 500% to 3,000% a year. Their trading during the last few years had been most extraordinary, and he put it, he hoped judiciously, and certainly reasonably, when he said he could only attribute it to gross incompetence all the way through. The Official Receiver then dealt in detail with the losses year by year, and said that what the firm could hope for at the end of the chapter, apart from any arrangement with Mr. Harris, he could not guess. It was only fair to say, having regard to the fact that the creditors might complain of Mr. Harris's representatives coming now to prove for these large sums, that certain negotiations were pending last year whereby the firm's finances should be adjusted. Unfortunately Mr. Harris's death intervened, and the negotiations had to fall through. If those loans and interest were blotted out there would be a substantial dividend for the trade creditors, and it was unfortunate for them that the negotiations were never concluded. A scheme had actually been prepared whereby practically the whole of Mr. Harris's loans would be wiped out and to have a security on the property for a balance of 6,000% to 7,000%. If that had reached maturity the position of affairs would have been vastly different to-day. In those years of trading the total interest on borrowed capital, both paid and unpaid, was 26,336%, of which sum only 11,000% had been paid. The public examination was fixed for September 15.

## DEEDS OF ARRANGEMENT.

**Parsons, Henry**, The Pharmacy, Haswell, Chemist and Druggist.—Trustee: N. F. Arveschong, 26 Bridge Street, Blythe. Dated, August 5; filed, August 10. Liabilities unsecured, 617%; estimated net assets, 290%. The creditors include: Hirst, Brooke & Hirst, Ltd., Leeds (20%); McDougall Bros., Manchester (11%); and Bleasdale, Ltd., York (20%).

**Whitehouse, Alex.**, 69 Bridge Street, Worksop, Chemist and Druggist.—Trustee: P. S. Booth, 2 Bixteth Street, Liverpool. Dated, August 3; filed, August 9. Liabilities unsecured, 1,271%; estimated net assets, 984%. The creditors include: Allen & Hanburys, Ltd. (5%); W. Butcher & Sons, Ltd. (10%); Fletcher, Fletcher & Co., Ltd. (5%); Houghtons, Ltd. (12%); G. B. Kent & Sons, Ltd. (8%); Kodak, Ltd. (12%); Meggeson & Co., Ltd. (18%); F. Newbery & Sons, Ltd. (8%); Stephen Smith & Co., Ltd. (15%); Schweppes, Ltd. (11%); Suttley & Silverlock (7%); T. Kerfoot & Co., Ltd. (5%); Vinolia Co., Ltd. (11%); Hindes, Ltd. (11%); Southall Bros. & Barclay, Ltd. (10%); E. Woolf (12%); Cupal, Ltd., Blackburn (16%); R. M. Mills & Co., Bournemouth (7%); Johnson Bros., Ltd., Hull (6%); Lofthouse & Saltmer, Ltd., Hull (8%); Hirst, Brooke & Hirst, Ltd., Leeds (25%); Evans Sons Lescher & Webb, Ltd. (105%); Paget Prize Plate Co., Ltd., Watford (7%); Bleasdale, Ltd., York (7%); and Raines & Co., York (28%).

## LIMITED COMPANIES.

### New Companies Registered.

The letters P.C. mean Private Company within the meaning of the Companies Act, 1907, and R.O., Registered Office.

**STEIN'S ORIENTAL STORES, LTD.**—Capital 320,000%, in 1% shares. Objects: To take over the business of a retail general stores carried on by Doro Stein at Alexandria, Cairo, Tanta, Mansourah, Constantinople, and Salonica as "La Grand Fabrique S. Stein," and to carry on, among other trades, that of dealers in drugs and chemicals. R.O., Salisbury House, London Wall, London, E.C.

**FEROXIDE, LTD. (P.C.)**—Capital 4,000%, in 1% shares. Objects: To carry on the business of chemists, druggists, dry-

salers, oil and colour men, etc., to acquire certain secret processes relating to the making of red oxide of iron and other substances, and to adopt an agreement with F. S. Newsham. The subscribers—F. S. Newsham, 29 Stanley Place, Preston, and W. S. Low, 172 Tucketh Road, Ashton-on-Ribble—are also life directors.

**KLENO, LTD.**—Capital 12,500%, in 10,000 preference shares of 1% each and 50,000 deferred shares of 1s. each. Objects: To take over the business of "Kleno" Co., and to carry on the business of manufacturers of and dealers in cleansing and toilet preparations, etc.; also to acquire the proprietary rights in a photographic eliminator known as "Hypono," and to adopt agreements with M. Wilkinson and Marion & Co., Ltd. R.O., 11 Queen Victoria Street, London, E.C.

**HEDGES (CHEMISTS), LTD. (P.C.)**—Capital 30,000%, in 1% shares. Objects: To carry on the business of chemists and druggists as formerly carried on by W. R. Hedges, sen., and W. R. Hedges, jun., at 10, 11, and 12 Dale End, Birmingham, and elsewhere, as Messrs. Hedges & Son. The subscribers are: W. R. Hedges, sen., W. R. Hedges, jun., J. Tolmie, and W. Shakespear, Ph.C., all of Dale End, Birmingham. The first directors are W. R. Hedges, sen., and W. R. Hedges, jun. (both permanent governing directors, with 50% and 150% per annum respectively as remuneration). R.O., 10 and 12 Dale End, Birmingham.

**WHIFFEN & SONS, LTD. (P.C.)**—Capital 200,000%, in 1% shares (100,000 preference). Objects: To take over the business of manufacturing chemists carried on by T. J. and W. G. Whiffen at Battersea, Southall, and elsewhere as "Thomas Whiffen," "George Atkinson & Co.," "J. A. Wink & Co.," and "Jacob Hulle," and to carry on the business of chemists, druggists, dyers, salters, dealers in pigments, varnishes, and dyeware, etc. The signatories are: T. J. Whiffen and W. G. Whiffen, Lombard Road, Battersea, S.W., manufacturing chemists, who are the first permanent governing directors, with special qualification of 25,000% each.

### Company News.

**KIRK'S DRUG-STORES, CONSETT, LTD.**, ask us to state that this company has no connection with Kirk's Drug-stores, Ltd., Newcastle (in liquidation).

**CORRECTING THE REGISTER.**—The Registrar of Joint-stock Companies at Edinburgh gives notice that unless cause is shown to the contrary the following companies, among others, will be struck off the register: Dumfries Drug Co., Ltd.; the Eimbank Hygienic Institute, Ltd.; Lanark Hygienic Institute, Ltd.; and Partick Hygienic Institute, Ltd. The Registrar of Joint-stock Companies in Ireland also gives notice that, unless cause to the contrary is shown, Byrne's Medical Hall, Ltd., and Cooke's Medical Hall, Ltd., will be struck off the roll of public companies.

### Charges or Mortgages.

**Under the Companies (Consolidation) Act, 1908, Section 93, the mortgages or charges therein specified are (except in Scotland) void against the liquidator and any creditor of the company unless filed with the Registrar in accordance with the conditions laid down in the Act.**

**Full statutory particulars of the following have been filed at Somerset House, London, W.C.**

**W. P. Adshad & Co., Ltd.**—Particulars of 1,000% debentures, created June 10, and secured by trust deed dated July 22, 1912, filed pursuant to Section 93 (3) of the Companies (Consolidation) Act, 1908, the whole amount being now issued. Property charged: The company's undertaking and property, present and future. Trustees: J. Pym and G. Pym, both of Belper.

**Cardiff Alkali Co., Ltd.**—A memorandum of satisfaction in full on June 30 of debentures dated February 26, 1909, and September 12, 1905, securing in all 150%, has been filed.

**Lecithin, Ltd.**—Issue on July 13 of 90% debentures, part of a series of which particulars have already been filed.

**Shelvey & Co., Ltd.**—A memorandum of satisfaction to the extent of 200% on July 24 of debentures dated from May 30, 1902, to April 19, 1906, securing 14,700%, has been filed.

**Silica Products, Ltd.**—Issue on July 12 of 250% debentures, part of a series of which particulars have already been filed.

**Warner Oliver, Ltd.**—Debenture dated August 1, to secure 250%, charged on the company's undertaking and property, present and future, including uncalled capital. Holder: H. Shearman, 10 Norris Street, Haymarket, London, S.W.



## BIRTHS.

**CHRISTOPHER.**—At Bradford-on-Avon, on August 7, the wife of R. T. Christopher, of a son.

**HARE.**—At 14 Liverpool Road, Birkdale, on August 11, the wife of Charles Hare, chemist and optician, of a daughter.

**KNOTT.**—At 47 Collingwood Avenue, Muswell Hill, London, N., on August 7, the wife of W. R. Knott (of R. J. Reuter's) of a daughter.

**MARSDEN.**—On August 14, at 24 Hawarden Avenue, Liverpool, the wife of Prosper H. Marsden, Ph.C., of a daughter.

## MARRIAGES.

**ANDERSON—SALISBURY.**—At St. Mary-the-Less, Jeppes, Transvaal, on July 20, by the Rector, the Rev. H. M. Johnson, M.A., Alexander Anderson, chemist and druggist, of Belgravia, to Kate Salisbury, second daughter of the late Mr. Clement Salisbury, of Clapham, London, S.W.

**BRITTAİN—TOPHAM.**—At the Congregational Church, Grantham, on August 12, by the Rev. W. L. Merson, Ernest Henry Brittain (cousin of Mr. R. H. Brittain, of Prichard & Constance, Wholesale, Ltd.), to Lucy Ellen youngest daughter of Mr. Arthur Topham, of Grantham.

**GRIFFITHS—ROBERTS.**—At Sardis Welsh Congregational Chapel, Pontypridd, on August 14, Morgan Lloyd Griffiths, chemist and druggist, 86 Taff Street, Pontypridd, to Marjorie C. Roberts, Cemaes Bay, Anglesea, late Cottage Hospital, Pontypridd.

**HILL—MILLER.**—At Ryecroft Independent Church, Ashton-under-Lyne, Harold Hill, son of Councillor D. C. Hill, of the Thompson Drug Co, Ltd., Cemetery Road, Dukinfield, to Miss Elsie Mary Miller, daughter of the late Mr. Robert Miller and of Mrs. Miller, Ashton-under-Lyne.

**MOSS—MCBURNIE.**—At Fortwilliam Presbyterian Church, Belfast, on July 3, by the Rev. Jas. Maconaghie, B.A., William Redfearn Moss, Clifton Park Works, registered druggist, to Harriette, daughter of Mr. John McBurnie, Belfast.

**RICHARDS—ROWE.**—At St. Paul's Church, Starcross, on August 1, Arthur, the eldest son of Mr. and Mrs. Richards, Exeter, to Ethel Margaret, the only daughter of Mr. Frank Rowe, chemist and druggist, and Mrs. Rowe, Starcross.

**SCHIOLER—LEASK.**—At Calgary, Alta, on July 27, by the Rev. J. A. Clark, Knox Presbyterian Church, Knud Birch Schioler, to Elizabeth Gillespie (Bessie), eldest daughter of the late John Leask, chemist and druggist, 96 Easter Road, Edinburgh, and of Mrs. Leask, Calgary, Alta.

## DEATHS.

**ARMBRECHT.**—At 73 Duke Street, Grosvenor Square, London, W., on August 7, Mr. Ernst Louis Armbricht, of Messrs. Armbricht, Nelson & Co., homeopathic chemists, aged seventy-eight. Mr. Armbricht was in his usual health and at work in his pharmacy until about a fortnight ago, when he was seized with a sudden illness, to which he succumbed. The deceased was of German nationality, and served his apprenticeship to the drug-trade in Hamburg, eventually qualifying as an apotheker in 1855. After a short period in Paris he came to London, where he filled various situations as an assistant, including some time with the late Mr. J. J. Snook, who was proprietor of the business of Wilcox & Co. (now Wilcox, Jozeau & Co.). In 1862 Mr. Arm-



MR. E. L. ARMBRECHT.

brecht commenced business on his own account as a pharmacist in quite a small way in a private house at Ryder Street, St. James (a very fashionable quarter at that period). Being a man of great business ability and of an enterprising disposition, his venture was a success from the outset. Subsequently he removed to 23 Duke Street, Grosvenor Square, and afterwards to No. 2, where he was in 1891. A year later, however, his premises being required to make way for improvements, he was compelled to find a new home at Nos. 71 and 73. It may be recalled that Messrs. Squire & Sons and Mr. Burden had also to vacate their premises at this time, and quite a newspaper controversy took place regarding ground landlords' demands. Mr. Armbricht, however, came to favourable terms with the Duke of Westminster, and built at his own cost a very handsome pharmacy of imposing architectural design. To the drug-trade Mr. Armbricht was known as the pioneer of the coca-wine industry. It was about 1880 that the idea of starting the manufacture of coca-wine occurred to Mr. Armbricht, when on a visit to a friend in Germany—a medical man who was enthusiastic in the praises of the remedy then newly discovered as a local anæsthetic. Mr. Armbricht had been paying some attention to the production of a new speciality for fatigue and insomnia, and he decided to experiment with the coca-leaf in this direction. At first his manufacture was in the nature of an experiment; but some of his customers and a few medical men gradually gave him hints which he turned to good use. And these, coupled with his own researches in the properties of the coca-leaf and its principles, gradually enabled him to build up a considerable business, and for over a decade there was quite a boom in coca-wine, the sale of which was facilitated by advertising on a gigantic scale. Mr. Armbricht once told us that he bought a thousand gross of coca-wine bottles at a time and these lasted him eight or nine months. He brought out many original advertising novelties, and in one scheme, assisted by one of his daughters, Miss Armbricht, he produced a series of hand-painted copies of various well-known pictures of Old Masters. With the change in fashion and public taste, Mr. Armbricht's enterprise branched out in other directions. Soon after the discovery of radium by Madame Curie, he was one of the first to call the attention of medical men to its application in internal administration in the elimination of uric acid, and the ionic or radium-water associated with his name has now an established reputation. Mr. Armbricht was one of the first to import radium from Germany, the price then being two or three marks per milligram, whereas it is now 22l. per milligram. Mr. Armbricht made a hobby of precious stones, but apart from this he had a wholesale connection in this industry. The business at the present time has quite a reputation for rare minerals and mineralogical curiosities. He leaves a widow, four daughters, and a son, Mr. Ernst Louis Nelson Armbricht, pharmaceutical chemist, who will carry on the business as hitherto.

**CLEWORTH.**—At Vicarage Square, Leigh, Lancashire, on August 8, Mr. William Cleworth, in his eightieth year, father of Mr. John Cleworth, pharmacist-photographer, 56 Ducie Street, Manchester.

**FIDLER.**—At Clifton Road, Newbury (Berks), on August 4, Alderman Thos. Fidler, chemist and druggist, aged ninety-six. Deceased carried on business in Mansion House Street, Newbury, for many years, being in business at the passing of the Pharmacy Act, 1868. He was the senior member of the Corporation and Mayor in 1864.

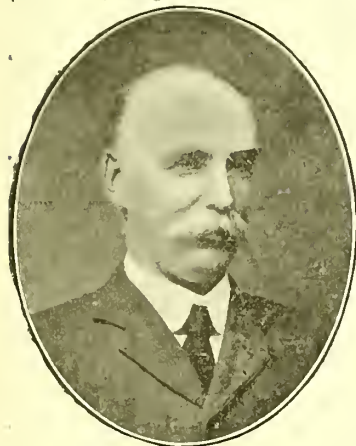
**GEE.**—At Claytonville, Inkerman Terrace, Whitehaven, on August 5, Mr. Stacey Thomas Gee, chemist and druggist, aged sixty-eight. Deceased, who died after twelve days' illness, was the eldest son of the late Mr. Stacey Gee, chemist and druggist, of the Market Place, to whose business he succeeded with his brother, Mr. David Gee. On their retirement it was taken over by the present proprietor, Mr. H. Clarke. Mr. S. T. Gee passed the Modified examination in 1869.

**LE DAIN.**—At Burton Bradstock, near Bridport, on August 9, Mr. Nicholas John Fleming Le Dain, chemist and druggist, Sutton Coldfield, Birmingham, aged thirty-



five. Mr. Le Dain was away on a holiday with his mother and *fiancée* when he was accidentally drowned while bathing. He was much respected in Sutton Coldfield, and many friends regret his untimely end.

HOWELL.—We referred in this column last week (*C. & D.*, August 10, index folio 263) to the death of



MR. REGINALD HOWELL.

Mr. Reginald Howell, whose portrait we are now able to give. Mr. Howell, who was fifty-six at the time of his death, received his chemical education at the Royal School of Mines, of which he was an Associate. He was afterwards articulated to Messrs. Burgoyne, Burbidges & Co., and in 1882, in conjunction with Mr. W. Stevenson, started the firm of Messrs. Stevenson & Howell. Until the last few years Mr. Howell went on 'Change daily, and

thus became very well known to the wholesale trade in London. He was of a particularly genial temperament, and this, combined with his unvarying courtesy, made him liked by everyone with whom he came in contact. In private life Mr. Howell was a great sportsman; he was an enthusiastic cricketer and as a member of the Surrey County Cricket Club had played for his county. He was also a keen golfer and lover of all outdoor sports. His death is keenly felt by a wide circle of friends, both in business and private life.

NEWLANDS.—At Summerville, Hayling Island, Hants (his seaside residence), on August 7, Mr. Benjamin Edward



MR. B. E. R. NEWLANDS.

Reina Newlands, aged seventy. Mr. Newlands studied chemistry at the Royal College of Chemistry under Professor Hoffmann, being one of the few surviving students of that eminent chemist. From college he went as assistant to Professor Heaton at Charing Cross Hospital. At an early age he and his brother, John A. R. Newlands (the discoverer of the Periodic law, who died in 1898), started as analytical and consulting chemists in

Great St. Helen's, London, E.C., but he soon left this and joined the staff of Messrs. Gibbs, manure-manufacturers, of which firm he soon became manager. After being with this firm for some years he went to James Duncan's Sugar Refinery, Victoria Docks, as manager, and in 1887 he once more took up professional work, and with his brother John restarted as consulting and analytical chemists at 27 Mincing Lane. About twelve years ago he moved into offices at 2 St. Dunstan's Hill, E.C., and continued in harness almost to the last. His professional practice has for some little time past been carried on by his son-in-law, his nephew and grandsons, and will be continued by them. Mr. Newlands was a technical expert on sugar of great eminence, and Newlands's book on "Sugar," which was written in conjunction with his brother John, is a standard book on this subject. He was an original mem-

ber of the Society of Chemical Industry, and has served on the Publication Committee for the last quarter of a century. He has served as member of the Council and as Chairman of the London Section. He was a Fellow of the Institute of Chemistry, being elected in 1887, and served as member of Council during the years 1884-90, and as a Vice-President from 1898 to 1901. He was also a Fellow of the Chemical Society and a member of the Society of Public Analysts. Mr. Newlands was known among his friends as an inimitable *raconteur*, his fund of anecdote and experience and keen sense of humour often whiling away the tedium of a long railway journey or filling up an evening in a most congenial manner. His friends, too, will miss his characteristic greeting-cards at Christmas, which always embodied a reproduction of an alchemical picture. He had a large collection of pictures of alchemists, several of which were reproduced some years ago in *THE CHEMIST AND DRUGGIST*. In private life Mr. Newlands was an idealist, but in business his faculty for going to the root of a matter won for him among his friends the title "Apostle of Common Sense." He was of a different temperament from his brother, referred to above, but never were two brothers more truly complementary. Mr. Newlands leaves a widow, three daughters, and two sons. At the funeral, which took place at Chingford Mount Cemetery on August 10, the Savage Club, various chemical societies, together with the Publication Committee of the Society of Chemical Industry, were represented by Dr. R. Messel, Mr. Thomas Tyrer, Mr. W. Reid, Mr. H. Hemmingway, Professor Hodgkinson, Mr. W. Leonard, Mr. David Lloyd Howard, Mr. Watson Smith, and Mr. Charles G. Cresswell. Messrs. S. H. Johnson & Co., of which firm he was chairman for some years, were represented by his co-directors, Mrs. S. H. Johnson and Mr. George Wilkins; Mr. Buck, secretary; Mr. Irwin, manager, and sixty of the employees. Messrs. A. Boake, Roberts & Co. were represented by his co-directors, Mr. F. G. Adair Roberts, Mr. A. E. Berry and Mr. F. M. Roberts, and Mr. Ford, the accountant. His family were represented by his sons, B. E. R. Newlands and P. R. Newlands, his son-in-law, J. J. Eastick, and his grandsons, J. C. N. Eastick and A. G. Eastick, and by Mrs. Johnson and Mr. Simmons. Among his personal friends present were Dr. James, Mrs. Roberts, Miss Johnson, Mr. Lichenstein, Mr. Fitch, Mr. Mumford, Mr. Joy, Mr. E. Johnson, Mr. Holt, Mr. E. White, Mr. Royle, Mr. Vogeler, and Mr. J. Ogilvie. Besides the numerous floral tributes from relatives and friends, wreaths were sent by the Society of Chemical Industry, the Publication Committee of the Society of Chemical Industry, his Mark Lane friends, and by Messrs. S. H. Johnson & Co.'s staff and employees.

SMITH.—At his residence, near Carlisle, on July 23, Mr. James Smith, chemist and druggist, aged thirty-two. Mr. Smith was apprenticed with Mr. John Robson, Carlisle, studied at the Edinburgh Central School of Pharmacy, and passed the Minor examination in October 1902. He afterwards filled situations in Harrogate, Birmingham, and was manager for Messrs. Cryer & Co., 506 Holloway Road, London, N., his last situation being at Tunbridge Wells. In 1910 he was elected President of the National Union of Assistant Pharmacists when the Union was in the heyday of its prosperity. Not long afterwards he was seized with an illness to which he has succumbed.



MR. JAMES SMITH.

OLIVER.—At St. Gabriel's Hill, Maidstone, on August 6, Jessie Oliver, wife of Mr. F. J. Oliver, J.P., chemist and druggist, aged fifty-one.

**SNAPE.**—At Bently Road, Princes Park, Liverpool, on August 9, Mr. Thos. Snape, J.P., chemical manufacturer aged seventy-seven. Mr. Snape formerly carried on chemical works at Widnes, and represented the Heywood division in Parliament from 1892 to 1895. He was a man of great commercial integrity, as an example of which may be mentioned the fact that many years ago, in the 'seventies, his firm were unable to meet their engagements, and were obliged to make an arrangement with their creditors. Yet in 1891, when he recovered his position by dint of hard work, he paid the balance of his debts with the addition of 50 per cent.

## PERSONALITIES.

Notes for this section sent to the Editor should be authenticated and must not be in the nature of advertisements.

**MR. G. CLARIDGE DRUCE, M.A.**, represents the Oxford City Council on the local Insurance Committee.

**W. W. WOOD**, son of Mr. Uriah Wood, chemist and druggist, Arnold, has won a medal for drawing at the Nottingham High School.

**MR. ROBERT FOURACRE, Ph.C., F.S.M.C.**, of the London Hospital, has been appointed dispenser to the West End Hospital for Nervous Diseases, Welbeck Street, London, W.

**MR. R. J. IBISON**, chemist and druggist, of Sheffield, for upwards of twelve years with Messrs. Boots as manager of a branch establishment, left London by the s.s. *Arawa* for Wellington, New Zealand, on August 15.

**MR. A. HESEKIEL**, who has been on a journey to South America, Panama, and the West Indies for the London Essence Co., Camberwell, London, S.E., has returned to London, and will resume his usual calls in this country.

**MR. J. PENDRIGH THOMSON**, chemist and druggist, Grande Pharmacie Finck, Geneva, a well-known English chemist, who has been seriously ill and away from business for over three months, is now back again in the pharmacy.

**MR. H. J. SHARPE**, proprietor of Sharpe's Drug-stores, 49 Edward Street, Brighton, was unsuccessful in the contest for a seat on Brighton Town Council. Mr. Sharp attributes his defeat to the fact that he was reputed to be a Socialist. He has issued circulars denying he is attached to any political party.

At the Cleethorpes Children's Beauty-show last week first place was taken by the little daughter of Mr. F. R. Clark, Ecclesall Road, Sheffield. Mr. Clark, who is an assistant with Mr. Percy Carr, chemist and druggist, Sheffield, was taking his holiday with his wife at Cleethorpes at the time. There were 140 competitors.

**MR. W. J. DAVIS**, who, as announced in the Summer Number, obtained sufficient marks to qualify for the Fairchild Scholarship, but was ineligible because he had since passed the Minor examination, was apprenticed and is still with Messrs. J. G. Plumley & Son, chemists, Bristol Bridge, Bristol. He entered the competition last year, and received a very favourable comment from one of the examiners regarding his papers.

**MR. R. T. BRAMMALL**, now representing Oppenheimer, Sor & Co., Ltd., in the Midlands, and formerly with Wright, Layman & Umney, Ltd., was spending a camping holiday with his wife and family at Leysdown, Isle of Sheppey, at the time of the Boy Scout disaster. Mr. Brammall saw the cutter capsize, and with some camping friends raced to the beach and got the coastguards' boat down to the water by the time they were ready to man it, so that not a second of time was lost. When the survivors were brought ashore Mr., Mrs., and Miss Brammall assisted in artificial respiration, etc. Mrs. Brammall, with the Scouts' medical man, Dr. Arthur, worked two and a-half hours upon the Silvester method with the boy Albert Dock, but he collapsed suddenly after showing some signs of recovery at the end of the second hour. Mr. Brammall was at the same time attending to Scoutmaster Marsh.

## WILLS PROVEN.

**MR. FRANK WALTER WINPENNY**, chemist and druggist, 170 Ferme Park Road, Hornsey, N., who died on June 28, intestate, left estate valued at 511*l.* 16*s.* gross, with net personality 469*l.* 8*s.* 5*d.*

**MR. MORRIS THOMAS**, chemist and druggist, Bridge Street, Corris, Merioneth, who died on April 6, left estate of the gross value of 6,825*l.* 18*s.* 6*d.*, of which the net personality has been sworn at 5,367*l.* 19*s.* 10*d.*

**MR. WILLIAM HENRY CRACKLE**, formerly dispenser at the General Hospital, Nottingham, who died on June 15, left estate of the gross value of 15,432*l.* 3*s.* 1*d.*, of which the net personality has been sworn at 12,155*l.* 9*s.* 3*d.*

**MR. STEPHEN ARMITAGE**, 88 Marina, St. Leonards-on-Sea, connected with the Icilma Co., Ltd., and a director of Oxychlorides (1907), Ltd., and who died on June 18, left estate of the gross value of 47,660*l.* 10*s.* 4*d.*, of which 47,567*l.* 6*s.* 9*d.* is net personality.

**MR. FREDERICK HENRY MORGAN**, chemist and druggist, Lindenhurst, 61 Comberton Road, Kidderminster, Worcester, who died on July 4, left estate of the gross value of 5,790*l.* 18*s.* 10*d.*, of which the net personality has been sworn at 4,997*l.* 7*s.* 10*d.*

**MR. DANIEL RUSHFORTH**, 133 The Grove, Ealing, London, W., for many years head of the counting-house of Evans Sons Lescher & Webb, Ltd., who died on July 14, left estate of the gross value of 6,705*l.* 15*s.* 9*d.*, of which the net personality has been sworn at 6,599*l.* 3*s.* 2*d.*

**MR. JOHN MERCER**, 41 Manning Road, Southport, retired chemist, who died on April 14, left estate of the gross value of 1,461*l.* 5*s.* 5*d.*, with net personality 670*l.* 16*s.* 2*d.*. Probate of his will has been granted to his sons, Mr. Fredk. Peter Mercer, of Water Lane, Preston, chemist, and Mr. Wilfred Francis Mercer.

## Private Meeting.

A MEETING of the creditors of Mr. John Amry Thomas, late of The Pharmacy, Cardiff Road, Caerphilly, was held at the offices of Messrs. Clarke, Dovey & Co., Cardiff, on August 9. The statement of affairs presented showed liabilities to fifty-three unsecured trade creditors 422*l.* 12*s.* 6*d.* and assets 124*l.* 16*s.* 2*d.*, showing a deficiency of 297*l.* 16*s.* 4*d.*. It was reported to the meeting that on December 4 last the debtor gave a bill of sale on his stock-in-trade and household furniture to his mother-in-law (Mrs. Margaret Morris, of Pentre) in consideration of a sum of 200*l.* which she advanced. In June last debtor was in difficulties, and placed his affairs in his solicitor's hands, the stock at Caerphilly, fixtures and fittings, etc., being disposed of for 297*l.* 1*s.* 1*d.*, this amount being arrived at by valuation made by Mr. Hicks, of Cardiff. The solicitor, out of the proceeds, paid off 200*l.* due to Mrs. Morris under the bill of sale, plus interest 5*l.* 7*s.* 8*d.*. After other payments, a balance remained in the solicitor's hands of 79*l.* 16*s.* 2*d.*. The meeting decided that the debtor be called upon to execute a deed of assignment to Mr. C. E. Dovey, of Cardiff, and the estate be realised and distributed forthwith. Among the creditors are the following: Allen & Hanburys, Ltd., London (20*l.* 10*s.* 6*d.*); Ayrton, Saunders & Co., Ltd., Liverpool (5*l.* 1*s.* 11*d.*); Blyton, Astley & Co., Manchester (10*l.* 11*s.* 10*d.*); Baiss Bros. & Stevenson, Ltd., London (11*l.* 7*s.*); Breidenbach & Co., London (7*l.* 9*s.* 9*d.*); Camwal, Ltd., Bristol (14*l.* 11*s.* 5*d.*); Duck & Son, Cardiff (6*l.* 15*s.* 1*d.*); D. & W. Gibbs, Ltd., London (6*l.* 9*s.* 8*d.*); Liebig's Wine and Drug Co., Huddersfield (6*l.* 16*s.*); May, Roberts & Co., Ltd., London (15*l.* 3*s.* 2*d.*); J. Quilliam & Co., Manchester (11*l.* 6*s.* 4*d.*); Southall Bros. & Barclay, Ltd., Birmingham (24*l.* 14*s.* 4*d.*); Stephen Smith & Co., Ltd., London (3*l.* 13*s.* 11*d.*); and Timpson & Co., Ltd., London (7*l.* 5*s.*).

CANADA AND THE WEST INDIES.—The Tariff Commission have issued a report on the reciprocal trade arrangement between Canada and the West Indies. This deals with the origin and character of the agreement, an analysis of the schedules, the course of trade between Canada and the West Indies, and the development of the colonial trade of the United States under Preference. Schedule B enumerates the West Indian products upon which a preference of not less than 20 per cent. off the duty will be granted. These include cottonseed oil, copra and coconut oil, logwood and logwood-extract, annatto, ginger, nutmegs and unground spices, arrowroot, sponges, honey and beeswax, essential oils (including bay and lime), kola, vanilla, bay-leaves, papain, lime-juice, fruit-syrups and fruit-juices (non-alcoholic).



## TRADE NOTES.

**VETERINARY SPECIALITIES.**—A series of veterinary specialties suitable for chemists' sale is advertised by Mr. A. Dinsley, 10 Essex Street, Strand, London, W.C.

**STOCKTAKING.**—The warehouses of Messrs. Burroughs Wellcome & Co., Snow Hill Buildings, London, E.C., will be closed on Saturday, August 31, for the purpose of stocktaking.

**THERMOGENE WADDING.**—The note last week regarding the advertising scheme of the Thermogene Co., Ltd., Hayward's Heath, was somewhat premature in that the advertisement referred to first appears in this issue.

**VAPOROLE CHLOROFORM AND ETHYL IODIDE COMPOUND.**—This is a new product issued by Burroughs Wellcome & Co., Snow Hill Buildings, London, E.C., consisting of a combination of chloroform, ethyl iodide, and menthol put up in glass capsules. Each capsule is surrounded with absorbent material enclosed in a silken outer case, so that when it is desired to inhale the compound it is only necessary to crush the capsule. Vaporole chloroform and ethyl iodide compound is recommended for all forms of laryngeal spasm—*e.g.*, in dyspnea of bronchitic asthma, in whooping-cough, and in oedematous laryngitis. The vaporoles are sent out in boxes of six.

**DYSPEPSIA TABLETS.**—The products of Messrs. A. H. Cox & Co., Ltd., Brighton, are known on the Continent almost as well as in the United Kingdom. We received this week a postcard photograph of the window of a pharmacy in the North of France, in which the most prominent object was one of the showcards referring to the

**This Test**  
: Cette :  
Experience

LEFORE — AFTER  
AVANT — APRES

PROVES WHETHER OUR  
VOUS PROUVE SI NOS

# Dyspepsia Tablets

:: Digest Your Food ::  
Digerent Votre Nourriture

See this  
test on  
a hard  
boiled  
egg.

Voyez cette  
expérience  
sur un  
œuf dur.

dyspepsia tablets produced by this company. The showcard is in two languages, as will be seen by the accompanying illustration. The spaces on the left are occupied by test-tubes showing results of the digestive action of the tablets. Another card we have received has the wording entirely in Italian.

## BUSINESS CHANGES.

Notes for this section sent to the Editor should be authenticated, and must not be in the nature of advertisements.

MR. HAROLD LAWRENCE, chemist and druggist, Kenley, has opened a branch at Berkeley, Glos.

MR. G. S. SARA has taken over the business of Gostling & Co., chemists, Framlingham, Suffolk.

MR. F. TAYLOR has succeeded to the business of Mr. John Hughes, chemist and druggist, 32 Splott Road, Cardiff.

The premises of Mr. Arthur Newton, chemist and druggist, Yeovil, have been reconstructed and refitted, and a new double front has been put in.

THE J. D. RIEDEL Co., 54 Cannon Street, London, E.C., inform us that Mr. A. A. Thiel has resigned his position of manager, and that Mr. M. Petzsch, who has been at their Continental works for several years, and entered the London branch about a year ago, has been appointed manager.

## Nepal Sassafras Oil.

S. S. PICKLES ("Jour. Chem. Soc.," July 1912, 1433) has examined the oil distilled from the wood of the so-called Nepal sassafras, or Nepal camphor-tree, which is botanically *Cinnamomum glanduliferum*. The wood is pale brown and easily worked, and when freshly cut is highly scented. A quite similar wood is obtained from trees growing in Assam and Darjeeling, but it is believed that the species is slightly different from the Nepal trees. The oil examined was distilled from the wood of trees grown in Assam. A yield of 2.95 per cent. on the wood was obtained. The oil is of a pale yellow colour, with an odour recalling safrol rather than camphor. It had the following characters: Specific gravity, 1.1033; optical rotation,  $-0^{\circ} 4'$ ; saponification value, 2.8; acetyl-saponification value, 7.0. It is soluble in half its volume of 90-per-cent. and in five volumes of 80-per-cent. alcohol. No terpenes are present, and acids, alcohols, esters, phenols, ketones, and aldehydes are present, if at all, only in very small quantity. The oil consists practically entirely of ethers, the bulk of the oil being composed of safrol, myristicin, and elemicin.

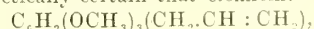
A long series of fractional distillation separated the oil into a number of fractions, of which the two principal were (1) below  $243^{\circ}$ , (2) from  $147^{\circ}$  to  $162^{\circ}$  at 12 mm. The former had a specific gravity 1.1059, was optically inactive, and melted at  $9^{\circ}$ . Traces only of methoxyl were present, which were regarded as representing a very small amount of impurities. A combustion gave the following results:

	Found	Required for $C_{10}H_{10}O_2$
Carbon ... ..	74.2	74.1
Hydrogen ... ..	6.1	6.2

That this fraction was practically pure safrol was confirmed by the preparation therefrom of safrol- $\alpha$ -nitrosite, melting at  $130^{\circ}$  to  $131^{\circ}$ , and piperonal, melting at  $37^{\circ}$  and having the characteristic odour of heliotropin.

The presence of myristicin was established by treating one of the high-boiling fractions ( $152^{\circ}$  to  $157^{\circ}$  at 12 mm.) with bromine dissolved in petroleum ether. In due course a crystalline mass was deposited, which melted at  $128.9^{\circ}$  and contained 62.22 per cent. of bromine. This body was dibromomyristicin dibromide, and its identity was established by conversion into dibromomyristicin, melting at  $52^{\circ}$  and containing 45.4 per cent. of bromine. A methoxy determination proved that not more than about 50 per cent. of this fraction was myristicin.

Oxidation experiments showed that trimethyl-gallic acid was among the oxidation products, which points strongly to the presence of a compound containing three methoxyl groups. This body was isomerised by potash, converting the allyl group into the propenyl group, and its dibromide prepared. This compound was found to melt at  $88^{\circ}$  to  $89^{\circ}$  and to have the characters of iso-elemicin dibromide. It is therefore practically certain that elemicin.



is present in the oil.

In addition to the above described three ethers there are present in the oil in traces the following compound: Palmitic acid (melting-point  $62.5^{\circ}$ ) in the free condition, a substance of phenolic nature, and a mixture of the lower fatty acids in the form of esters.

Elemicin has been identified as a constituent of oil of elemi by Semmler (*vide* "Berichte," 1903, 1768), while myristicin is a constituent of mace and nutmeg oils, and safrol of ordinary camphor and sassafras oils.

THE exports of olive oil from Nice during 1911 amounted to 1,417 tons, against 4,516 tons in 1910 and 4,303 tons in 1909.

**MEXICAN QUICKSILVER.**—The State of San Luis Potosi has always been the largest producer of quicksilver in Mexico. At present the mines are not being worked to anything like their capacity (says a British consular report), owing to the fact that foreign capital has not as yet been interested in the production. Most of the mines are shut down, or, if working at all, are being worked on a cheap scale.

## Practical Notes and Formulae.

### Metal-polishing Cream.

THE following formula yields a metal-polishing cream which has the advantage of being a grease-solvent and so facilitating polishing:

Spirit	...	...	32	parts
Solution of ammonia	...	...	3	parts
Water	...	...	45	parts
Carbon tetrachloride	...	...	6½	parts
Kieselguhr	...	...	8	parts
White or red bole	...	...	4	parts
Chalk	...	...	8	parts

The addition of carbon tetrachloride ensures that the mixture is non-inflammable.

### Powdered Blaud's Mass.

MR. G. M. BERINGER, JUN. ("American Journal of Pharmacy," 84, 1), states that there is considerable demand for Blaud's mass in powdered form, and he supplies the following formula, which he has used with success:

Exsiccated ferrous sulphate	...	105	grams
Potassium carbonate	...	30	grams
Powdered sugar	...	105	grams
Powdered aocacia	...	10	grams

Rub the potassium carbonate with 10 c.c. of water, and add the other ingredients previously mixed. Rub till evenly coloured, dry in an oven, and powder. Preserve in tightly stoppered bottles.

### Ointments for Oculists' Use.

THE method of preparing yellow oxide of mercury for use in a freshly precipitated and moist form for an eye-ointment is familiar to pharmacists. Similar processes have been devised by Ammon ("Münch. Med. Woch.") for the iodides of mercury. On the Continent moist precipitates employed in this way are known as "pulti-form," indicating that they are of the consistence of a poultice. The method of making mercurous iodide is as follows:

Triturate mercurous nitrate with distilled water until 500 c.c. has been employed, being careful not to use great pressure, which might separate metallic mercury. The solution is filtered and added to a solution warmed to 50° C. of 1.32 gram of potassium iodide in 250 grams of distilled water, contained in a litre cylinder, in such a manner that mercury solution is distributed uniformly in the iodide solution. The solution becomes cloudy, and presently yellowish. The cylinder is stoppered and reversed several times until the mercurous iodide is completely precipitated in the form of a yellow coagulum. The excess of soluble mercury salt is eliminated by careful washing with water until the washings do not give a blue colour with diphenylamine, or a black with caustic soda or potash. This coagulum is then incorporated with lanolin to make a 1-per-cent. ointment, and in the absence of light will keep for a year without alteration. For the mercuric iodide (red iodide) ointment a solution of 1.5 gram of potassium iodide in 400 c.c. of water is poured into a solution of 1.2 gram of mercury perchloride in 300 c.c. of distilled water, with the same precautions regarding the uniform mixing of the solutions.

In this way is obtained a pink-tinted milky appearance, and after reversing the vessel several times a very fine flocculent precipitate settles lightly at the bottom. This precipitate is washed free from chlorine and incorporated with lanolin, the finished product being kept from light.

### Disinfecting Hides and Skins.

WITH a view to preventing anthrax infection due to imported hides and skins, various processes of disinfection have been proposed. In "The Lancet" (1911, II., 1260) is a paper on the subject by Dr. C. Wells Ponder, in which Mr. Seymour-Jones's "formic-mercury" process is described. This consists in placing the dry hides for twenty-four hours in a "soak," which is made up to contain 1-2 per cent. of formic acid and 0.02 per cent. of perchloride of mercury, and then "salting" them with sodium chloride. The action of the "soak" is to swell up the fibres of the hide by causing them to absorb water, the result being that the hide returns to a condition closely resembling that in which it was when taken from the animal's carcass. This swelling action also affects the dry albuminous matter which may be supposed to protect the

spores; the perchloride of mercury therefore permeates the protecting material, and its full action can be exerted. Moreover, as has long been known, the presence of the weak acid prevents the rapid deterioration of the germicide from the formation of insoluble albuminates. After the "soak," the "salting," by again abstracting water, converts the hides into a condition which differs very little from the "wet-salted" state of a hide which had been so treated immediately after flaying. Dr. Ponder has conducted a large number of experiments on the process, and finds it effectual. The total cost of the method is estimated not to exceed 3½d. per hide, and as a raw hide is valued at about 1l., the extra cost of disinfecting it is not great.



Postal Address:  
C. & D. INFORMATION DEPARTMENT, 42 Cannon Street, London, E.C.  
Telegraphic Address: "CHEMICUS LONDON."  
Telephone No.: BANK 852 (two lines).

### INFORMATION WANTED.

We would be obliged if any reader would inform us by post-card or telephone who are the makers or agents of the articles mentioned in the following inquiries:

- 11/15. "Imperial" porous plasters.
- 15/24. Graham's diabetic bread: makers.
- 15/35. "Regalia" toilet-powder: supply.
- 14/10. Clarke's eye-lotion: London agents.
- 14/11. "Jackson's Pectoral Balsam": makers.
- 15/49. "Lion" brand coal-tar pitch: suppliers.
- 16/24. Myrcin (extract of myrtle wax): supply.
- 16/64. Amadou (touch-wood or tinder): first-hand dealers.
- 11/54. "Eucrasyn" (for dipsomania): address of makers.
- 13/58. "Redmayn's Powder": what is it and who supplies?
- 13/50. "Thiocamph," an application for varicose veins: where obtainable.
- 11/55. "Lawrence's Uriseptic Pills" (made by Lawrence & Co., London): supply.
- 14/46. Dealers in animal substances, such as thyroid glands, suprarenal glands, etc.
- 12/6. Tooth-brushes—"Crystal 2680 Germany" and shield trade-mark: makers or exporters.

### INFORMATION SUPPLIED.

During the past week we have answered inquiries as to the makers or sellers of the following articles. The information will be repeated to other inquirers who send to this Department a stamped and addressed envelope for the purpose.

- Adare's preparations, 15/3
- Alumina sulphate (50-ton lots), 13/18
- Antikito, 8/31
- Armstrong's enemas, 14/15
- Cauvin's pills, 9/420
- Chamberlain's remedies, 13/28
- "Cicfa" makers, 13/13
- Clarke's eye-lotion (makers), 14/10
- Cutisol, 9/55
- Damaroids, 13/3
- Deutschmann's serum, 15/27
- Droste's cocoa, 12/6
- "Erosia" dentifrice, 7/49
- "Fermentin" preparations, 8/71
- Fetron, 15/270
- Fly-papers (French makers), 14/28
- Franck's "Grain of Health," 9/42
- "Griffon" manicure preparations, 4/65
- "Heiko" perfumery, 9/4
- Jayne's sanative pills, etc., 9/421
- Kasak elixir, 13/411
- Mackenzie's arsenical soap, 15/26
- Miol, 13/41
- Nephretin tablets, 10/43
- "Novena" sun-proof cream, 12/68
- "Omnium" bandages, 14/1
- Oscar Onken's "Younits," 10/7, 11/7, and 12/30
- Pankreon (London agents), 15/22
- "Rexall" remedies, 8/51
- Ritsert's "Rhincoculin" preparations, 15/23
- "Roman Solvene," 7/49
- "Rosa Centifolia" perfume, 2/71
- Scott's electric hair-brush, 14/1
- Soda crystals (for export), 13/181
- Staphylase (Doyen), 9/56
- "Tactz" brand castor-oil capsules, 14/2
- Towle's pills, 9/48
- Trypsin, 13/410
- "Valora" tea, 14/14
- Weston, 13/67
- Westrosol, 13/670
- Zomol (Vial), 12/69



## OBSERVATIONS & REFLECTIONS.

By Xrayser II.

### Mr. Hill's Paper

on "The Relations of Physician, Pharmacist, and Patient" seems to have been received by the Conference with a unanimity of approbation that was naturally pleasing to the author. The Ten Commandments, as read in churches, are similarly received with universal consent, but the extent to which they are observed is another story, and it is to be feared that the actual relations of the three P's do not always accord with Mr. Hill's ideal. That the pharmacist, as an intermediary between physician and patient, necessarily occupies a difficult position will not be denied by anybody, and its difficulty is frequently increased by causes which, though avoidable, are only too likely to arise. I refer especially to considerations of immediate apparent advantage, and to faults of tact and temper on the part of one or other of the three parties concerned. The pharmacist is perhaps most liable to these lapses, for in any collision between him and either of the others he has always the disadvantage of being most in danger of loss in case of disagreement. This should, of course, make him the more careful, but it has sometimes the opposite effect. Not unnaturally it sometimes breeds temper and a certain recklessness. Most pharmacists who have had frequently to refer prescriptions to the prescriber have occasionally done so with results which did not invite a repetition of the act. However much obliged physicians are by the pointing out of their errors, they have been known to dissemble their gratitude. Patients, too, occasionally resent a refusal of what seem to them reasonable requests, and here again the personal equation is apt to confuse the ethical position. Looking at the matter as dispassionately as possible, I think the pharmacist is entitled to sympathy and consideration if he does now and then fall below Mr. Hill's standard.

### The Training of Apprentices

is another matter in which the ideal is hard to realise. Mr. Peck's paper brings out prominently one particular difficulty. The apprentice should be trained both in "practical pharmacy" and in dispensing, but the former is largely confined to country pharmacies, the latter almost entirely to certain urban districts; happy indeed is the apprentice who gets a training in both! One wonders whether this difficulty could be met by an exchange of apprentices? Such an arrangement would probably recommend itself to the apprentice more than to the pharmacist, and there is, besides, the further question, Where do apprentices come from? Mostly from rural districts, and from a class upon which the high-grade pharmacist is disposed to look down. It is all very well to insist on the Preliminary as an antecedent to apprenticeship, but what if by so doing you stop the supply of apprentices? It is really no more necessary, however desirable it may be, to pass the Preliminary before apprenticeship than the Minor before assistantship. While our profession is so largely fed by the hybrid grocer-pharmacist of Slowcombe-Parva it is suicidal to close the door upon his quondam errand-boy, and after all that youth manages oft-times to reach the high places of pharmacy. Mr. Peck admits that the training he gets is not the worst basis for future eminence. I yield to nobody in regard for education; I would have apprentices as highly trained as anybody; but we must remember the receipt for juggling a hare—"first catch your hare."

### The Lack of Business Knowledge

referred to by Mr. Crossley-Holland in the discussion that followed Mr. Peck's paper is unfortunately not confined to assistants, for it is notorious that the absence of training in this branch of our calling has, more than any other cause, been responsible for the lack of commercial success of thousands of pharmacists who have gone into business on their own account. Why is it that we so utterly neglect what ought to be one of the essentials of preliminary education? In my view, the cause, in the first instance, is the entire separation of the "classical" from the practical subjects in our educational system as a whole. Take the great secondary schools, the City of London School for example; there will be found three departments, or sides—classical, scientific, and modern. Any scholar destined for a professional or scientific career naturally follows the prescribed curriculum of study, while a youth intended for business goes into the modern side. The classical course pays not the slightest attention to such bread-and-butter subjects as book-keeping or business knowledge, because these subjects are not recognised in any examinations leading into the professions. The result is that our doctors and ministers commence their careers absolutely destitute of any business knowledge, so far as their official training is concerned, and hence the well-known fact that this class of men often walk straight into the pitfalls that are plentiful enough even for experienced business men.

### How is the Pharmacist Affected

in all this? Quite simply. The examination side of our training has of necessity had to be kept severely apart from commerce, and the result has been that from the very start our young men are forced into the classical rather than the commercial groove. But our business is mostly commercial and only in a slight degree professional, and surely therefore the latter side should occupy the subordinate place. Every pharmacist who discusses the subject solemnly shakes his head and makes some oracular and platitudinarian remarks on our lack of business knowledge; but what can we expect when we give up to classics the best of the years that ought to be devoted, in part at least, to something much more useful and every bit as educative? True, there is very little "classics" about our Preliminary examination, but then there is no business at all, and all through their curriculum of study our young men are as good as taught to look on business knowledge with contempt.

### Jay Mack Among the Obstructives

is not Jay Mack at his best. Pushed to its logical result, his reply to his critics means that since dispensing does not yield so much profit per hour as retailing it does not pay and we are better without it, for obviously he endorses his friend Mr. Oxen's view. He forgets that to dispense is our *raison d'être*, not only the outward and visible sign, but also the inward and spiritual grace upon which our existence as a body depends. Upon dispensing pharmacy as a profession was built up, and with the loss of dispensing it declines; where it is altogether lost the pharmacist sinks to the level of the huckster. We have now a chance to retrieve it, and Jay Mack demurs. On what grounds? He assumes, entirely without warrant, that dispensing under the Insurance Act will yield a net profit of only 1d. per prescription, represents this as a loss, and ignores altogether the collateral advantage which as a tradesman he will secure by this extension of one branch, and that the parent branch, of his business. He argues that his assistant's time is worth more than his own—which nobody will believe—and shows generally a lamentable lack of adaptability to new conditions. And the root-trouble apparently is the conviction that although the change may pay others it will not pay him. All this shows a sad declension in that once bright spirit, Jay Mack.

## Please Apply for Details

OF THE

## New Window Display Terms.



## THE "SANITAS" CO., Ltd.

— Locksley Street, —  
LIMEHOUSE, LONDON, E.

FRENCH  
and all Foreign  
PROPRIETARY  
MEDICINES  
can be obtained from  
**WILCOX, JOZEAU & CO.**  
49 Haymarket London SW  
Price List on Application  
Special Export Terms  
Foreign Prescriptions  
dispensed for  
Pharmacists

**"Eureka"**  
Saleable Lines. Good Profit. Attractive Advertising.  
Tomlinson & Hayward, Ltd., Lincoln.

**S.V.M.** METHYLATED SPIRIT  
Also RECTIFIED SPIRIT.  
**S.V.R.**  
Jas. Burrough Ltd. D.I. Cale Distillery, Hutton Road,  
LAMBETH, S.E.

## C. & D. BOOKS.

EVERYONE PRACTICAL, MONEY MAKING, & MONEY SAVING.

PHARMACEUTICAL FORMULAS. (8th Edition.) 10/-, by Post 10/6.  
ART OF DISPENSING. (9th Edition.) 580 pages, 6/-, by Post 6/4.  
VETERINARY COUNTER PRACTICE. (6th Edition.) 4/-, by Post 4/4.  
THE CHEMIST-OPTICIAN. 4/-, by Post 4/3.  
ELEMENTARY DISPENSING PRACTICE. 3/6, by Post 3/9.  
DISEASES AND REMEDIES. (4th Edition.) 3/-, by Post 3/3.  
PRACTICAL METHODS OF URINE ANALYSIS. 2/6, by Post 2/9.  
THE CHEMISTS' MEDICAL DICTIONARY. 2/6, by Post 2/9.  
GUIDE TO PRELIMINARY EXAMINATIONS. 2/6, by Post 2/9.  
MANUAL OF PHARMACEUTICAL TESTING. 2/6, by Post 2/9.  
OPENING A PHARMACY. (3rd Edition.) 2/6, by Post 2/9.  
THE CHEMISTS' DICTIONARY OF SYNONYMS. 2/6, by Post 2/6.

THE CHEMIST AND DRUGGIST, 42 CANNON STREET, LONDON, E.C.  
Also Stocked by the leading Wholesale Houses.

## GRIMBLE'S MALT VINEGAR.



LONDON, N.W., & EDINBURGH

**FLETCHERS'** FOR TINCTURES, INFUSIONS,  
AND SYRUPS.  
**CONCENTRATED**  
Sole Proprietors:  
**FLETCHER, FLETCHER, & CO., Ltd.** **LIQUORS**  
London and Sydney.

## Editorial Articles.

### The Trend of Pharmacy.

WE are wont in this issue to survey through students' spectacles pharmacy past, present, and future. This year these stages are best represented as regards our calling by three Acts of Parliament—the Poisons and Pharmacy Act, 1908, the Shops Act, 1912, and the National Insurance Act, 1911. Although none of this legislation was intended specially to affect assistants and apprentices, yet the probable result will be that the trend of pharmacy from their standpoint will be much changed in the future. Already the demand for qualified men shows a tendency to exceed the supply, leading some sections of the profession to recognise that a qualification on the lines of that of the Pharmaceutical Assistant in Ireland is wanted, while the supply of medicines under the National Insurance Act may convert this into a necessity. It is advisable, therefore, to review the effect of these Acts from the point of view of the youth who is considering pharmacy in his choice of a remunerative calling. The *C. & D. Coloured Supplement* is week by week an eloquent testimony to the increasing demand for qualified managers and assistants, due in a measure to the necessity for establishments where the sale of poisons is conducted being under the management of a chemist and druggist or pharmaceutical chemist. This demand is likely to be accentuated, at any rate as regards larger establishments, by the shorter hours which result from the coming into force of the Shops Act. The most important factor, however—namely, the National Insurance Act—has not yet begun to operate, nor can its effect be accurately forecasted, owing to the present uncertain attitude of the medical profession towards the Act. In any case it seems likely that more dispensers will be required, whether the supply of medicines be worked through the chemists or from dispensaries, and a further fillip to the demand for Minor men will necessarily follow, as dispensing must be carried out or be supervised by persons who are qualified under the Pharmacy Acts. In order easily to examine the statistics regarding the future supply of qualified men, we have compiled a table



which relates to the Minor examination and the Preliminary examination since 1870—in quinquennial periods until 1905, and thereafter annual figures. It will be seen that the year 1900 was a record one, both in the number of candidates who entered and passed the Minor examination and in the percentage of failures, with the exception of 1908. In this year also the Pharmaceutical Society of Great Britain discontinued conducting its own Preliminary examination; the number of students or "Apprentices" registered was the maximum. The table permits of fair comparison, as the abnormal years (1874, 1891, and 1899) immediately preceding changes in the conduct of the examination are omitted.

—	Minor Examination					Preliminary Examination	
	Examined	Passed	Failed	Passed per cent.	Failed per cent.	Candidates	Passed
1870	316	226	90	72	28	803	669
1875	285	141	144	50	50	824	416
1880	653	311	342	49	51	1,227	638
1885	955	351	604	37	63	1,278	690
1890	1,157	524	633	46	54	1,392	617
1895	1,304	447	857	35	65	1,430	677
1900	1,839	548	1,341	29	71	2,158	1,023
1905	1,298	468	830	36	64	—	239
1906	1,164	400	764	35	65	—	251
1907	1,116	411	705	37	63	—	266
1908	1,380	354	1,026	26	74	—	416
1909	1,059	396	663	38	62	—	379
1910	1,027	407	620	40	60	—	398
1911	892	436	456	49	51	—	505

In the decade 1890 to 1899 5,053 persons passed the Minor examination, the figures for the next decade being 4,640, an annual average of 505.3 against 464. It will be seen, also, that since 1908 the number of men who passed the Minor examination is considerably below the average. This would be much worse were it not for the fact that a steady rise in the percentage of passes has been witnessed since the record "plucking" of 1908. Increased success in examinations means fewer candidates presenting themselves on subsequent occasions, so that it is not unlikely that the number of entrants will decrease for some time to come. Turning to the statistics regarding registration of students, it is evident that the big drop following upon the abolition of the Pharmaceutical Society's Preliminary examination is slowly being made good, but not at a sufficient rate to outweigh the shortage caused by the depletion of the students' ranks owing to increased success in the qualifying examination. Possibly the higher pass-rate is due to the influx of candidates who have received better elementary training and are capable, in consequence, of assimilating pharmaceutical knowledge more readily. Whatever the cause, the fact remains that the shortage of pharmacists is likely to increase in the next few years. Already masters have to consider ways and means of attracting and keeping good men; higher remuneration is being paid, and on the whole the prospects for the embryo pharmacist to-day are brighter than for many years past. There is a promise of a better status following Government recognition in the National Insurance Act of the pharmacist's duties; the Shops Act should give easier hours; and the educational facilities available are greater than ever before. The proper ambition of the qualified chemist, of going into business on his own account, gets more difficult of realisation each year. Company competition, especially in towns, is keener, more capital is wanted, expenses are growing, and profits tend to decrease. The very causes which are

making apprenticeship and assistantship more acceptable, also affect adversely chemists in business. Notwithstanding all this, there are each year men with good business ability who are proving that retail pharmacy can still be made a paying proposition, while it remains to be seen whether the National Insurance Act will not enable the public to discriminate more easily between the "chemist by examination" and his unqualified competitor, to the advantage of the former.

## Women Councillors.

THE suggestion has recently been put forward that women desirous of showing their fitness for the suffrage should take an interest in Local Government and become in large numbers members of county and borough councils. In this way, it is contended, women would be in a better position to convince the public that their intervention in national politics would be of advantage. In view of this campaign, "The Standard" states that it is "not improbable that on the occasion of the next election to vacancies on the Council of the [Pharmaceutical] Society . . . there may be one, if not two, women candidates, who are thought to possess a good chance of election." We do not know whether this is an inspired suggestion or only a scintillation of a bright journalist's mind, but it opens up interesting questions. Is pharmacy as practised by women any different from the male variety? Are women pharmacists sufficiently numerous to claim direct representation? Would a woman stand any chance of election? are questions which will occur at once to our readers. The subject, moreover, calls to mind the acute controversy that raged in the 'seventies regarding the admission of women to membership of the Pharmaceutical Society. As the story may be new to many of the present generation we make no excuse for referring to it again. The question arose at the November Council-meeting in 1872, although there seems to have been an earlier application from a registered woman chemist, which was rejected without the facts being made public. Mr. Hampson, who was a splendid champion of personal rights, proposed a lady for membership, but the motion was opposed, for several rather indefinite reasons. Mr. Sandford, for instance, said "there is a feeling among the members of Council that they do not want ladies as members," and he pictured that there would be lady councillors, and even a lady president, if once women were admitted to membership. Others voted against the proposal because the candidate was a hospital dispenser, and not in business for herself. An amendment was carried after a long discussion, postponing the consideration of the question. In February 1873 Mr. Hampson brought forward the names of three women for admission to the Society as apprentices or students, but again his motion was defeated. Mr. Bottle suggested, as a compromise, that women be attached to the Society in an honorary capacity. The remarks of Mr. Mackay on this occasion seem appropriate to the suggestion put forward to-day. He said that "even if a dozen, a hundred, or five hundred, ladies entered the Society, it did not follow that they would be elected on the Council. They could not be so elected unless it were the general wish of the whole body. He should certainly have no objection to seeing ladies sitting there. Still, he looked upon it as not at all probable, though barely possible." At the annual meeting in May 1873 Mr. Hampson tested the feeling of the members by a motion advocating the

admission of women as members, but an amendment was carried adjourning the matter *sine die*. The question was raised again at three Council-meetings in 1876 and 1877, once in the case of a candidate for the associateship, but with the same result. The Councillors sheltered themselves behind the decision of the members of the Society at the annual meeting. As a consequence the question was referred again to the annual meeting in 1878, when Mr. Wade moved that women be admitted to membership. Some misunderstanding resulted as to the voting, with the ultimate result that the matter was left *in statu quo*. Nothing daunted, Mr. Hampson returned to the charge at the June Council-meeting, and this time his motion was lost only by the casting vote of the President. Then in March 1879 it was suggested that a referendum of the members should be taken, but the proposal was not carried. At the May meeting Mr. Wade again brought the matter forward, and this time there was a majority of three only against the admission of women. The triumph came at the Council-meeting on October 1, 1879, when Mr. Hampson proposed the election of two women members, and so complete was the change of feeling that the resolution was carried with only one dissentient—the President (Mr. Sandford), who first and last was a consistent opponent of the admission of women to the Society. It may be thought that we have recited the facts of this thirty-year-old controversy as a warning of the almost hopeless fight that lies before the women who offer themselves as Council candidates. We do not think, however, that women will have to fight the same battle over again. Now the difficulty, it seems to us, will be to convince the members that there are special problems in pharmacy that require looking at from a feminine standpoint.

## Foreign Trade in July.

THE Board of Trade Returns for July, which were briefly referred to in our issue last week, are remarkable for the recovery from the decided set-back which occurred in June, the more so, as during the whole of July, the London dock strike was in progress, and conditions were most unfavourable for any improvement whatever. The imports for the month show a gain of 7,266,170*l.*, or 14.2 per cent., the largest for any month of 1912 so far, save in April, when the advance was 16.5 per cent. The exports have done even better than the imports, notwithstanding the labour troubles, the increase being 7,378,724*l.*, or 21.3 per cent., the largest by far of any monthly increase yet registered this year. One wonders what the expansion would have been if normal conditions had prevailed in the labour world. The increase in imports last month is well distributed under the three leading heads, foodstuffs, etc., accounting for 2,470,651*l.*, raw materials and partly manufactured articles for 2,619,377*l.*, and wholly or mainly manufactured goods for 2,156,828*l.* Among raw materials the chief advance occurred in oil-seeds, nuts, oils, fats, and gums, which are up by 1,240,700*l.* The imports of chemicals and allied goods for the months were valued at 1,018,900*l.*, or 100,640*l.* more, but, curiously enough, the number of articles showing a decline exceed those showing an increase. The largest expansions were in unenumerated drugs and medicines by 35,308*l.* and unenumerated potassium compounds by 38,345*l.* Cream of tartar was up by 1,481 cwt., glycerin by 1,610 cwt., saltpetre by 5,437 cwt., quinine by 163,087 oz., Peruvian bark by 1,632 cwt., synthetic indigo by 1,119 cwt., and

painters' colours by 88,742 cwt. Among the items showing a decline were the following: Acetic acid, 1,288 cwt.; bleaching materials, 2,648 cwt.; boron compounds, 3,432 cwt.; calcium carbide, 16,986 cwt.; soda compounds, 1,051 cwt.; cutch, 1,996 cwt.; and tanning bark, 26,161 cwt. The sulphur imports were less in quantity by 462 cwt., but greater in value by 693*l.* The quicksilver imports were quite insignificant, being only 37,964 lb. (505 bottles), as against 265,200 lb. (3,536 bottles), but on the seven months there is an increase of 138,248 lb. at 3,237,088 lb. (43,160 bottles). The gain of 7,378,724*l.* in our exports last month is distributed among food-stuffs (470,000*l.*), raw materials (1,866,446*l.*), and manufactured goods (5,059,584*l.*), the latter representing practically 70 per cent. of the advance, figures which are an eloquent testimony to the vitality of our manufacturing industries. Cotton goods account for 2,350,400*l.* more, iron and steel manufactures are up 964,300*l.*, machinery is up by 535,900*l.*, and woollen goods by 560,000*l.*; in fact, the imposing array of plus signs is only broken by "miscellaneous goods," which were down by 518,381*l.*, and "new ships" (always a variable item) by 250,000*l.* Chemicals and the like did remarkably well, being 171,700*l.* up at 1,435,449*l.* In this section we exported drugs and medicines to the value of 174,683*l.*, or 22,246*l.* more, which figures are beyond cavil, especially when we note shipments amounting to 1,210,068*l.* for the expired portion of the year, or 85,967*l.* more. There was a considerable drop in quinine exports, as will be seen below:

	1910 oz.	1911 oz.	1912 oz.
July ...	157,561	224,151	74,206
Jan.-July ...	768,114	936,639	780,122

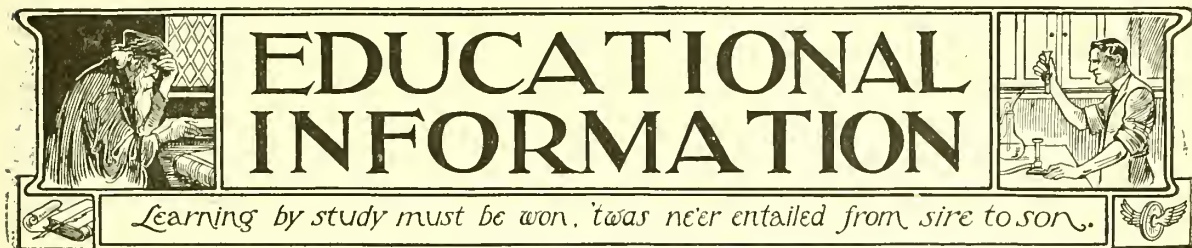
For the seven months our imports are well over four hundred millions sterling, an improvement of just about nine millions, and exports have increased during the same period by almost eleven millions, the figures for July being largely responsible for this satisfactory state of affairs. The only disconcerting feature is a decline of 1,085,100*l.*, or 13.2 per cent., in re-exports, for which no doubt the dock strike is chiefly responsible. Practically all products have been affected, the chemical section being down by 20,614*l.*, but on the seven months' aggregate there is an increase of 20,942*l.*



[Photo. Cleworth.]

IN PITTENCRIEFF GLEN, DUNFERMLINE, JULY 31.  
From left to right: Dr. Ross, Sir Edward Evans,  
Sir W. Robertson, and Mr. Ewing.





## Entrance Examinations.

THE natural course to adopt in introducing the educational information in this issue is to begin with those examinations in general knowledge, or Preliminary examinations as they are called, which precede the entrance of students into their respective professions, whether medical, dental, veterinary, or pharmaceutical. In the case of the three first-named, and also in the case of pharmacy in Ireland, it is essential that the Preliminary be passed before the student enters upon his curriculum of professional study; but with regard to pharmacy in this country this course, though advantageous, is not compulsory. All that is needful is that the Preliminary be taken before the candidate enters for the Minor examination. It is always in the interest of the student in pharmacy to pass the Preliminary if possible before he leaves school. One would think that with the facilities now offered in the public and secondary schools, this would be a simple matter, but unfortunately it is not so simple as it looks. When the student comes from an elementary school, or even from a higher-grade school, it is often a matter of great difficulty to secure the classical tuition necessary for the modicum of Latin required for the Pharmaceutical Preliminary examination. For all such students—and their number will always be very considerable—a guide to the work required to be done for the examination is necessary, and for this purpose no better book can be had than Dodds's "Complete Guide to Preliminary Examinations," published by THE CHEMIST AND DRUGGIST (2s. 6d., post free 2s. 9d.). The 1912 (fourth) edition is brought thoroughly up to date, and if the examples given are conscientiously worked through, no student need fear to attack the examinations of the College of Preceptors or of the Educational Institute of Scotland. Unless efficient training in the preliminary subjects is readily available, the best advice we can offer is that an efficient private tutor be engaged. It has been suggested that local pharmaceutical associations ought to subsidise certain classes, to be held at hours convenient for students. Alternatively the County Education Committees might be appealed to with a view to special tuition being given during school hours to such young men as would be willing to take advantage of it. It has been repeatedly pointed out that pharmacists as a class do not have their requirements studied by educational authorities, and that with judicious management organised instruction could be provided for in every town in the kingdom at a comparatively small cost. Classes arranged with the special object of preparing for a definite examination would in most cases be as satisfactory as the employment of a private tutor.

The object of a preliminary examination being to test the general knowledge of the student and to ensure that he has received such an education as will enable him to carry on his studies with some prospect of success, it follows that the examination must be based on an average course of school study. Thus, broadly speaking, all the entrance examinations for the professions require a knowledge of the English language and of mathematics (arithmetic, algebra, and Euclid) and of one classical and one modern language. The only difference between one Preliminary examination and another is a difference of degree and not of kind. The Preliminary examination for students intending to take a degree in science is usually more difficult than the medical Preliminary, and the latter, on the other hand, is stiffer than is at present required for pharmacy. The Pharmaceutical Society of Great Britain

and the General Medical Council do not conduct any examinations, but for registration purposes they accept the certificates of legally constituted examining bodies.

The Universities conduct their own entrance examination or accept certain certificates of equivalent value. With those students who are content with the qualifications of the various medical colleges, and who do not propose to go in for a degree, the most popular Preliminaries are those conducted by the College of Preceptors and the Educational Institute of Scotland. The latter remark also applies to students of pharmacy in Great Britain, the greater number of certificates being received from these two bodies. The Local examinations of the Universities of Oxford and Cambridge are also open to private students, the majority of the candidates entering as pupils of schools. The Oxford Local examinations are held in March and July, and the Cambridge in July and December. Full particulars may be had from the Secretary, Syndicate Buildings, Cambridge, and the Secretary, Local Examination Offices, Merton Street, Oxford, respectively.

The London University Matriculation examination is undoubtedly the best Preliminary to take, because it is accepted by every University and practically every examining body in the country as evidence of satisfactory general knowledge. Latin is not compulsory, but it must be included if the certificate is to be accepted by the Pharmaceutical Society and General Medical Council. It enables a student, should the opportunity ever come, to proceed to a degree in medicine or in science at the London University without again returning to the drudgery of school-books. The examination, however, is difficult, and a high standard is required for a pass, so that it is only in exceptional cases that a student can unaided succeed in passing it by private study.

### Pharmaceutical Preliminary Examination.

The Pharmaceutical Society of Great Britain demands, as one of the conditions prior to entry for its Minor or Qualifying examination, a certificate of some other legally constituted examining body containing the following subjects: English, Latin, a modern foreign language, and mathematics (including arithmetic, algebra, and geometry). Welsh is now accepted in lieu of a modern foreign language. The list of certificates recognised is printed on index folio 295. All the subjects must be taken under one examining body and passed in not more than two examinations.

The COLLEGE OF PRECEPTORS conducts its general or class examinations in June and December, and its Professional Preliminary examination in March and September, in London and at various local centres. Both these fulfil the regulations of the Pharmaceutical Society of Great Britain, but the easier general examination is usually taken. However, the Professional certificate is accepted by the General Medical Council. Full particulars can be obtained on application to the Secretary, Mr. C. R. Hodgson, B.A., College of Preceptors, Bloomsbury Square, London, W.C. The papers set at previous examinations cost 7d. post free from Mr. F. Hodgson, 89 Farringdon Street, London, E.C.

The examinations of the EDUCATIONAL INSTITUTE OF SCOTLAND are held simultaneously, four times a year, in Edinburgh, Glasgow, London, Liverpool, and Dublin. A calendar (price 1s., post free) containing previous papers can be obtained from Mr. Hugh Cameron, M.A., 34 North Bridge Street, Edinburgh.



The general scope of the subjects is as follows:

**English.**—A thorough knowledge of the classification and inflexion of words, the rules of syntax, and the analysis of sentences. The Institute requires a fair knowledge of history and geography from pharmaceutical candidates.

**Latin.**—At the College of Preceptors examination candidates may elect to be examined on "unseen" translation, or a prescribed book of Caesar or Virgil. The Educational Institute requires from all candidates translation from authors not previously announced, and continuous Latin prose, with a knowledge of grammar.

**French and German.**—The papers of both examining bodies in these two languages are very similar, containing "unseen" passages for translation into English, translations of short idiomatic sentences and a continuous passage into the foreign language, and a knowledge of grammar.

**Arithmetic.**—College papers include simple questions on the metric system, but exclude cube root, problems in rate and time in simple interest, compound interest and stocks. The syllabus of the Institute simply specifies the common rules and vulgar and decimal fractions.

**Algebra.**—Both examinations require knowledge of simple equations, fractions, and easy quadratic equations.

**Geometry.**—The College sets three alternative papers, and the Institute requires a knowledge of Euclid, Books I. to III., with simple deductions.

### Medical and Dental Preliminary Examination.

The first step towards registration by the General Medical Council as medical or dental students consists in passing a suitable Preliminary examination in Arts. This must include the following subjects, all of which must be passed at one time (or after January 1, 1914, at two sittings, see below).

**English.**—Grammar; paraphrasing; composition; questions on English history and geography.

**Latin.**—Grammar; translation into English from unprescribed Latin books; translation into Latin of a continuous English passage, and of short idiomatic English sentences. (A classical Oriental language may be accepted.)

**Mathematics.**—Arithmetic; algebra, including easy quadratic equations; geometry, including the subject-matter of Euclid, Books i., ii., iii., and simple deductions.

One of the following subjects: (a) *Greek* (grammar; translation into English from unprescribed Greek books; translation into Greek of short idiomatic English sentences); or (b) *a modern language* (grammar; translation into English from unprescribed books; translation of a continuous English passage, and of short idiomatic English sentences).

The College of Preceptors and the Educational Institute of Scotland conduct special Preliminary examinations for intending medical students. The certificate of the Educational Institute is perhaps the easiest to obtain of any which is accepted for the Medical Preliminary. Lists of certificates recognised by the Council are contained in the "Regulations for Registration" (price 6d.), published by Messrs. Spottiswoode & Co., Ltd., 5 New Street Square, London, E.C.

The Preliminary Education of medical students has been under consideration for some years, and by a resolution adopted on June 7 by the General Medical Council new recommendations which aim at rendering more uniform the Medical Preliminary certificates come into force on January 1, 1914. The resolution regarding "the character of the examination" is:

(a) In Languages each examination should be of not less than two hours' duration; and, if it includes questions on prescribed books, of not less than three hours' duration. In Mathematics (which should include arithmetic, algebra, and geometry) the examination should be of not less than three hours' duration.

(b) In each examination the questions should be such as to test, not merely knowledge, but a power of intelligent application of knowledge. In English the paper should include an essay and a paraphrase; also questions testing a knowledge of grammar, English history, and geography. In Classics and Modern Languages each paper should include at least one passage of some length from an unprescribed book for translation into English; an English passage of some length (except in Greek); and a few short idiomatic English sentences, for translation; and questions on grammar. In arithmetic and algebra most of the questions and problems should involve some thought and intelligent knowledge of the principles underlying the rules. In geometry most, if not all, questions should include a simple rider as an essential part.

(c) In languages, questions on prescribed books should form not more than a third of the paper.

Other resolutions refer to distribution of marks, the standard of marking, and the minimum percentage of pass (50 per cent. is the minimum in Latin, modern languages, and English, and 45 per cent. in Greek and mathematics). The seventh resolution allows the subjects to be passed at one or two sittings. The resolutions are to be regarded as instructions for all Examining Bodies and Examinations recognised by the General Medical Council, except those of Government and University bodies. The latter are to be requested to state how far their respective examinations meet these requirements, and how far it would be desirable or possible to make modifications with that object.

It will be observed that the recommendations follow the lines adopted by the Educational Institute of Scotland, in that the examination may be taken at two sittings, and it is quite probable that the College of Preceptors' Medical Preliminary regulations will be modified to fit in with this scheme of the General Medical Council. The Committee of the General Medical Council have also followed the Scots custom in the way in which the subjects of examination are stated. The College of Preceptors examine their candidates in eight subjects—namely, English, history, geography, arithmetic, algebra, Euclid, Latin, and a modern language. Exactly the same ground is covered in the four subjects specified by the General Medical Council and recognised in all Scotch examinations—that is to say, the subject "English" includes English, history, and geography, and the subject "Mathematics" includes arithmetic, algebra, and Euclid. The four subjects of the Medical Preliminary are therefore identical in scope at present with the eight subjects of the College of Preceptors. Thus, unless alterations are made, it must be borne in mind that in the event of the Preceptors' Medical Preliminary being taken at two sittings it will be essential that the three subjects grouped under English must be passed at one sitting, and the three included in the mathematical group must also be passed at the same examination.

### Veterinary Preliminary Examination.

The synopsis of subjects for the Medical Preliminary is identical word for word with that contained in the regulations of the Royal College of Veterinary Surgeons. The list of certificates recognised, which is also practically the same as that of the General Medical Council, can be obtained on application to the Secretary of the College, 10 Red Lion Square, London, W.C.

### London Matriculation Examination.

The University of London holds its Matriculation examination thrice yearly, in January, June, and September. Candidates must be at least sixteen years old. The fee is 2l., and forms of entry must be obtained about six weeks before the commencement of the examination. Full particulars of the examination are contained in the University's Regulations for Matriculation. The subjects are as follows:

(1) English; (2) elementary mathematics; (3) Latin, or elementary mechanics, or elementary physics (heat, light, and sound), or elementary chemistry, or elementary botany; (4 and 5) two of the following subjects if not taken under Section (3): Latin, Greek, French, German, ancient history, modern history, physical and general geography, history and geography, logic, geometrical and mechanical drawing, mathematics (more advanced), elementary mechanics, elementary chemistry, elementary physics (heat, light, and sound), elementary physics (electricity and magnetism), elementary biology (botany), elementary biology (zoology), elementary geology.

At least one foreign language must be taken in the examination. All the papers are of three hours' duration except in English, where the two papers cover three hours. Two papers are given in mathematics.

Application can be made for examination in some one language not contained in the above list, but a special additional fee is also required.

Information as to the entrance examinations of the various Universities is best obtained in the calendar of each institution.



## The Practice of Pharmacy.

THE PHARMACY LAWS throughout the British Empire are modelled on those of this country, and a further step towards uniformity was made last January, when the Pharmaceutical Society of Great Britain adopted by-laws enabling it to accept approved certificates of Colonial examining bodies. The Privy Council approved of these on March 6. At the present time some of the Colonial registration bodies have not taken kindly to the large registration-fee. Considerable progress has still to be made before a chemist and druggist may remove to any part of the British Empire without loss of qualification. All Colonial bodies, except in Canada, accept the Minor certificate of the Pharmaceutical Society of Great Britain and the Irish licence, these being practically the examination standards throughout the Empire. In Canada these two certificates entitle holders to registration as Assistants only, it being necessary to take the Final examination of the Province before setting up in business. Internal reciprocity is also limited. In British South Africa a project is on foot to unite the various pharmaceutical licensing bodies, while in Australasia internal reciprocity is practically accomplished. At home, pharmacy in England, Scotland, and Wales is administered by the Pharmaceutical Society of Great Britain, but in Ireland the Pharmacy Acts are enforced by the Pharmaceutical Society of that country. The Channel Islands have Acts of their own, but accept British, Irish, and French qualifications. The Isle of Man has also special Poison statutes, and the British and Irish qualifications are recognised. In

### GREAT BRITAIN

the examining body is the Pharmaceutical Society of Great Britain, 17 Bloomsbury Square, London, W.C., which conducts two examinations for chemists and druggists (permitting the use of the title "Pharmacist") and pharmaceutical chemists respectively. Those who wish to enter for

#### The Minor, or Qualifying Examination for Chemists and Druggists,

must first obtain registration as "Apprentices or Students." Their application to the Registrar must be accompanied by a certificate showing that they have passed an approved Preliminary examination (see index folio 293 and below) and by a fee of two guineas.

Although it is not at present essential to take the Preliminary examination before entering upon the necessary three years' practical training in pharmacy, it is specially desirable that the prospective candidate should do so. The official list of examinations is as follows, but the Council have power to accept others of equal value:

*University of Oxford.*—Junior or Senior Local examinations; Higher Local examinations; Responsions.

*University of Cambridge.*—Junior or Senior Local examinations; Higher Local examinations; previous examination.

*University of London.*—Matriculation examination; Higher School-leaving Certificate; Junior School examination; Senior School examination.

*University of Durham.*—Junior or Senior Local examinations; Certificate of Proficiency examination.

*University of Birmingham.*—Matriculation examination.

*Universities of Manchester, Leeds, Liverpool, and Sheffield.*—Joint Matriculation examination; Senior School examination.

*University of Bristol.*—Matriculation examination.

*Universities of Edinburgh, Aberdeen, Glasgow, and St. Andrews.*—Preliminary examination in arts, or medicine, or science; Junior and Senior Local examinations.

*University of Dublin.*—Public Entrance examinations (for "High Places").

*Royal University of Ireland.*—Matriculation examination.

*Queen's University of Belfast.*—Matriculation examination.

*University of Wales.*—Matriculation examination.

*Scottish Education Department.*—The Intermediate Certificate or Passes in the Higher or Lower Grade of the Leaving Certificate examination.

*Intermediate Education Board for Ireland.*—Senior or Middle Grade Certificate examination.

*Central Welsh Board.*—Honours, Senior or Junior Certificate examination.

*Oxford and Cambridge Schools Examination Board.*—Higher or Lower Certificate examination.

*Educational Institute of Scotland.*—Medical Preliminary examination.

*College of Preceptors.*—First or Second Class Certificate examination.

Before entering for the examination the candidate must obtain a declaration, signed by a registered pharmaceutical chemist, chemist and druggist, or registered medical practitioner, that he has had three years' practical experience in compounding medical prescriptions. This is usually obtained during apprenticeship to a chemist and druggist, but the training may be gained in a hospital, doctor's dispensary, or other similar place. As regards training for the qualifying examination, the student should have laid the foundation of this when he took his Preliminary examination and during apprenticeship. The technical side of pharmacy should have been studied at local institutions, or, failing these, privately. The *C. & D.* Students' Corner affords splendid exercises in qualitative analysis, eminently suitable for Minor candidates. Training in practical pharmacy should naturally form part of the daily work of the apprentice, who should never lose any opportunity which presents itself for dispensing or making pharmaceutical preparations.

The systematic course of instruction recommended by the Council of the Pharmaceutical Society covers a period of not less than six months, including at least sixty lectures in chemistry, eighteen hours' work in each week in practical chemistry, forty-five lectures and demonstrations in practical botany, and twenty-five lectures and demonstrations in materia medica. Many candidates enter for the examination after three months' study, in which time the courses of training outlined above can be covered. Only students well above the average, or those who have already done most of the spade-work during apprenticeship, can expect to meet with success in such a short space of time, the subjects included in the syllabus for the Minor examination being so wide that a year is not too much for anyone with no previous knowledge. It is customary, however, for candidates by dint of hard work to qualify within six months. Courses of study should only be taken at institutions which specialise in pharmaceutical training, and we give a list (index folio 296) of schools where pharmaceutical courses are available. The secretaries of these schools will always supply prospectuses regarding their institutions, which usually contain full particulars of the courses of study available and their cost. In most cases the principals will gladly advise in cases of difficulty, and we recommend students to take advantage of such counsel. The Registrar of the Pharmaceutical Society supplies free on application a pamphlet containing full particulars of the examination itself, and it is never too soon for the embryo pharmacist to obtain this in order to find out the regulations with which he must comply. The examination extends over two days, but unless the candidate is successful in passing in practical pharmacy and chemistry, which form the subjects of the first day's work, he is not called upon to attend the second part of the examination, which is an oral one on all subjects. The examination is conducted in London and Edinburgh by Boards of Examiners meeting in January, April, and July, and at the end of September or the beginning of October. Application for admission to the examination must be made before the 15th day of March, June, September, or December. The candidate's first notice must be accompanied by a fee of ten guineas, a certified declaration to the effect that he has been practically engaged in the translation and dispensing of prescriptions for three years, and a certificate of birth showing that he has attained the full age of twenty-one years. The printed form on which the declaration has to be made can be obtained only from the Registrar. At the time of giving notice the candidate should say whether he wishes to be examined in Edinburgh or London. The



candidate who fails can enter for the next or any subsequent examination on payment of a fee of three guineas.

We give below an epitome of the subjects which are contained in the syllabus for the Minor examination:

**BOTANY.**—(a) *Classification.*—The main divisions of the vegetable kingdom and their most important characteristics, including sub-classes and natural orders of the Angiosperms, description of flowering plants in technical language, and recognition of about fifty named plants. (b) *Morphology, including Anatomy.*—The external form of plants, distinguishing features and common modifications of them, branching and branch systems, phyllotaxis, buds and their arrangement, a general acquaintance with the elements of plant anatomy, and recognition by means of the microscope. (c) *Elementary facts* in connection with the physiology of plants, and the nature of certain plant-constituents; the manner in which plants grow and respond to external stimuli; sexual and asexual reproduction.

**CHEMISTRY AND PHYSICS.**—Elementary knowledge of (a) physical laws; (b) the chief characteristics of chemical action; elements and compounds; chemical combination; atomic and molecular weights; chemical formulæ and nomenclature; valency; the distinction between metals and non-metals; (c) the general characters of the non-metals, and preparation and typical reactions of non-metallic elements and compounds, with impurities in such of them as are included in the British Pharmacopœia; (d) the metals, and methods of forming oxides and salts; preparation, properties, adulterations, and contaminations of salts used pharmaceutically; (e) carbon compounds, especially those used medicinally; methods of estimating carbon, hydrogen, oxygen, and nitrogen in organic compounds; molecular formulæ. [Simple problems relating to the weight and volume, under different conditions of temperature and pressure, of elements and compounds concerned in chemical reactions.] *Practical Examination.*—Determination of specific gravities; use of the thermometer and barometer; recognition by tests of the more important non-metallic elements and compounds, metals, and salts; analysis of a mixture containing not more than two metals and two acid radicles; identification of named organic compounds; volumetric determinations described in the British Pharmacopœia; construction and use of the balance; imperial and metric systems of weights and measures. Assay of cinchona, liquid extracts of belladonna and ipecacuanha; extract, liquid extract, and tincture of nux vomica; opium and its extract, liquid extract, and tincture; and resin in tincture of jalap. Preparation of inorganic and organic B.P. compounds.

**MATERIA MEDICA.**—Recognition of crude drugs, their varieties, sources, natural orders, modes of collection and preparation for the market, morphological nature, chief active constituents, and practical knowledge of any pharmacopœial tests or processes of assay applied to crude drugs or their official products. A list is given.

**PHARMACY.**—(a) Operations requiring the use of heat. (b) Disintegration of solid substances; solution, its nature, solvent-power of various menstrua, influences of specified conditions; filtration, expression, principles involved in the dispensing of medicines; processes by which specified official preparations are made; and proportion of active ingredient or crude material in official preparations of specified active medicines. (c) Knowledge of the Schedule to the Poisons and Pharmacy Act, 1908, and conditions upon which poisons may be sold, and the proper entry required on the sale of a Part I. poison, dispensing of poisons, and sale of arsenic.

**PRACTICAL PHARMACY AND DISPENSING.**—Making of British Pharmacopœia preparations, and compounding and dispensing medicines.

**PRESCRIPTIONS.**—Reading autograph prescriptions in English or Latin; posology; calculation of percentages and rendering into good Latin ordinary prescriptions written in English.

### The Major Examination

is in practice an honorary examination, the candidate gaining little beyond the greater knowledge and wider experience consequent upon the extension of his studies. Certain positions are open only to holders of the Major diploma, which also carries exemption from jury service and allows the use of the title "Pharmaceutical Chemist." The examination is open only to those who have passed the Minor, and it is advisable to take it as soon as possible after this examination, as the Major syllabus is largely an extension of the Minor one. It is now held only twice a year, in April and July, in Edinburgh and London. The fee is three guineas. The examination extends over three days, and includes chemistry and physics, materia medica, and botany of a more advanced type than for the Minor.

The examination is a written one, including also practical work in chemistry, botany, and materia medica. Heat and light, electricity and magnetism, taxonomy, microscopical detection of adulterants, gravimetric analysis, gas analysis, alkaloidal assays, and chemistry of the carbon compounds are the chief subjects for this examination in which a much more advanced knowledge is expected.

### SCHOOLS OF PHARMACY.

The specialised training for pharmaceutical examinations rendered schools of pharmacy a necessity. The first of these was the Pharmaceutical Society's School, which is now enjoying increased popularity. The first private school was the South London School of Pharmacy, started in Kennington, London, S.E., by the late Dr. John Muter, this leading to South London becoming, as it is to-day, the headquarters of unofficial education in pharmacy. During the last two decades private endeavour has established schools in the provinces, many of the big towns having a private school of pharmacy. The spread of technical education has also been taken advantage of during recent years, teaching in pharmaceutical science being now given at some technical institutions. The keen competition existing between the more modern Universities has also led to pharmacy being included among the subjects of the Science Faculty in a few cases. We summarise below the existing facilities, thus affording to the prospective student of pharmacy a guide as to the best course to pursue. He should, however, supplement this by choosing one or more likely institution and writing to the Principal or Secretary, who will supply further particulars and often give much useful advice.

#### LONDON.

##### The School of Pharmacy,

17 Bloomsbury Square, W.C.

Staff: *Botany*—Lecturer: Mr. C. H. Warner, B.Sc., F.I.C. *Chemistry and Physics*—Professor A. W. Crossley, D.Sc., Ph.D., F.R.S., Sec. C.S. Assistant Lecturer: Mr. C. H. Hampshire, B.Sc., A.I.C. Demonstrators: Mr. W. A. Storey and Mr. S. H. Stroud. *Pharmaceutics*—Professor Henry G. Greenish, F.I.C., F.L.S. (Dean). Demonstrator: Mr. H. A. Taylor.

The Elementary (Minor) course begins on October 2, continuing until the end of June 1913. The fee is 32*l.* 1*l.* s., or 30*l.* to student-associates. There is also an additional term (fee, 6*l.* 6*s.*) for students who have completed the elementary course. The advanced (Major) course commences on the same date and ends in March of next year, the fee for which is 18*l.* 18*s.*, or 18*l.* to student-associates or members of the Society. Summer term for students who have completed the advanced course, 4*l.* 4*s.* Students who have received previous adequate training can be admitted to special shorter courses or to separate classes. The fees for six and three months are 22*l.* and 11*l.* respectively.

London College of Chemistry,  
361 Clapham Road, S.W.

Principals: Mr. Henry Wootton, B.Sc., and Mr. A. Kirkland, Ph.C.

Autumn term for the Minor course begins on September 11 and continues until Christmas; fee, 10*l.* 10*s.* The Spring and Summer terms are of three months' duration, and commence early in January and April respectively; fee, 9*l.* 19*s.* 6*d.* There is also a revision course for the October Minor, starting on August 14; fee, 5*l.* 5*s.* The fees for two or three terms are considerably reduced. A six-month course for the Major examination in April begins on October 14, fee 13*l.* 2*s.* 6*d.*; or three-month terms, January to April, or April to July, 6*l.* 16*s.* 6*d.* Evening classes (fees, 1*l.* 1*s.* to 1*l.* 17*s.* 6*d.*) and Preliminary courses (fee, 1*l.* 1*s.* per term) are also held. Courses for the Apothecaries' Assistants' examination commence on August 14, and in October, January, and April; fee for full course (six months) 10*l.* 10*s.*, and for three-month term 5*l.* 5*s.* The old-established South London School of Pharmacy (founded by the late Dr. John Muter in 1868) is now incorporated with this College.

South of England College of Pharmacy,  
186 Clapham Road, S.W.

Principal: Mr. H. Lucas, Ph.C., F.C.S. Staff: Messrs. A. R. Hewish, Ph.C., and Mr. H. E. Archer, Ph.C.

The full Minor course extends rather over three months, and commences on September 26 and early in January and April; fee 9*l.* 9*s.*, or two terms for 17*l.* 6*s.* 6*d.* A tutorial class in preparation for the October examination starts on



August 12; fee, 5*l.* 15*s.* 6*d.* Evening classes for Minor and Major students are held on Mondays, Wednesdays, and Thursdays, from 6.30 to 9 P.M., commencing October 3 and continuing until July. The fees for these are: Minor, 8*l.* 18*s.* 6*d.* per session, or 3*l.* 3*s.* per session and 1*l.* 1*s.* per term for single evening each week. Major, 8*l.* 8*s.* per course, or 3*l.* 3*s.* for three months. For the Apothecaries' Assistants' examination six-month and three-month courses are available, the fees being 10*l.* 10*s.* and 5*l.* 15*s.* 6*d.*

**Westminster College of Chemistry, Pharmacy, and Botany,**  
402 Clapham Road, S.W.

Principal: Mr. G. S. V. Wills, Ph.C.

The session is divided into three terms, commencing in September, January, and April, with a short revision class from August to October. The fees are: Minor, single term 10*l.* 10*s.*, two terms 17*l.* 17*s.*, session 21*l.*, revision class 5*l.* 5*s.*; Major, one term 6*l.* 6*s.*, two terms 10*l.* 10*s.* Course of instruction for the Preliminary, Apothecaries' Hall, and Fairchild's examinations are also available. Evening classes are held every Wednesday and Thursday from 6 to 9 P.M. Wills's Universal Postal System (fee, 1*l.* 1*s.*) provides a complete course of 100 lessons for home students.

**City of London College,**

White Street and Ropemaker Street, Moorfields, E.C.

Courses preparatory for the Minor examination are held on Tuesday and Friday or Thursday evenings. The sessional fee is 30*s.* (members 20*s.*). Full particulars from the Secretary, Mr. David Savage.

**South-Western Polytechnic Institute,**

Manresa Road, Chelsea, S.W.

Evening classes for pharmacy students commence on September 23. The sessional fee for the complete Minor or Major course is 25*s.*; separate subjects, 10*s.* each.

**Battersea Polytechnic,**

Battersea Park Road, S.W.

Principal: Dr. S. G. Rawson, F.I.C.

Complete day, afternoon, and evening courses for the Minor commence on September 24. The fees for the day course are 4*l.* 14*s.* 6*d.* per term (thirteen weeks), or 13*l.* 13*s.* per session (September to July); afternoon classes (Tuesdays and Thursdays) cost 1*l.* per session; and evening classes, covering the minor subjects in three years, 10*s.* to 1*l.* per subject each year. The evening course for the Major extends over two sessions, with similar fees. There are also classes for the Apothecaries' examination.

**West Ham Municipal Technical Institute.**

Principal: Mr. A. F. Hogg, M.A.

The course in pharmaceutical subjects costs 35*s.*

## THE PROVINCES.

**Barrow-in-Furness.**

Principal: Mr. Geo. Grace, B.Sc. At the Technical School the chemistry, physics, and botany classes are suitable for pharmaceutical students; fees, 7*s.* 6*d.* to 20*s.* per course.

**Bath and West of England College of Chemistry and Pharmacy,**

6 Cleveland Place East, Bath.

Principal: Mr. David J. Williams, Ph.C., F.C.S. September 2 is the date of the commencement of the new term for the Minor, which includes foundation course; fee, 9*l.* 9*s.* The fee for the January or April term is 8*l.* 8*s.* Rapid revision course (with extra evening practical work) for the October examination starts on the same date; fee, 4*l.* 4*s.* Preparatory postal tuition for Minor, Major, Scholarships, and Preliminary examinations is also offered at fees varying from 1*l.* 1*s.* to 5*l.* 5*s.* Evening classes are held; fees, 1*l.* 1*s.* to 2*l.* 10*s.* 6*d.* Major courses, three months 6*l.* 16*s.* 6*d.*, and six months 12*l.* 12*s.* Apothecaries' Assistants' course, six months 9*l.* 9*s.*, three months 5*l.* 5*s.*

**Birmingham and Midland College of Chemistry, Pharmacy, and Botany,**

45 Newhall Street, Birmingham.

Principal: Mr. G. L. Scott, Ph.C. A short special course begins on August 19. Other terms start October 1 and early in January, April, and July; fees, three months 8*l.* 8*s.*, six months 15*l.* 15*s.* Major course and afternoon and evening classes are also held. Classes are also held for the Apothecaries' Hall examinations.

**Birmingham Municipal Technical School,**

Suffolk Street.

Secretary: Mr. Geo. Mellor. The sessional fee for pharmacy students (Wednesdays from 2.30 to 5 P.M.) is 5*s.* for the first year, 7*s.* 6*d.* for the second, and 10*s.* for the third. The C. J. Woodward Memorial Prize of 3*l.* 10*s.* is awarded to the

student who does best in the sessional examination of the second year. Evening classes in elementary botany cost 2*s.* 6*d.*

**Birmingham University.**

Instruction in pharmaceutical subjects can be taken here.

**Bradford Technical College.**

Head of Department: Professor W. M. Gardner, M.Sc. The Minor course extends over two years (afternoon and evenings), the sessional fees being 5*l.* 10*s.* (day course) and 7*s.* 6*d.* (evening course). Mr. W. West, F.L.S., pharmacist, lectures in botany, materia medica, and pharmacy.

**Brighton Technical College.**

Principal: W. Beckett Burnie, D.Sc. Day and evening classes are arranged for Minor students. Particulars from the Principal.

**Bristol University.**

Registrar: Mr. James Rafter. A complete Minor course (day) begins in October and continues until July; fee, 14*l.* 14*s.* Mr. O. C. M. Davis, D.Sc., M.Sc., F.I.C., Ph.C., is the lecturer in pharmaceuticals. The new chemical wing now open cost 35,000*l.*

**Merchant Venturers' Technical College, Bristol.**

Principal: Professor J. Wertheimer, D.Sc. The evening classes in botany, chemistry, and physics are suited to pharmaceutical students. Fees, 7*s.* 6*d.* and 10*s.* for each class.

**Elt's College, Bristol,**

103 Chesterfield Road.

This Bristol College of Pharmacy and Preliminary Examinations specialises in postal tuition for the Minor, Major, Apothecaries' Hall, and Preliminary examinations. Full particulars of methods are given in the College's "Little Red Book."

**Derby Technical College.**

Principal: Mr. F. W. Shurlock, B.A., B.Sc. Tuition in pharmacy and materia medica is given by Mr. S. Taylor, Ph.C., on Wednesdays; fee, 1*l.* 1*s.* per term. Chemistry and botany classes are also available.

**Royal Albert Memorial University College, Exeter.**

Principal: Mr. A. W. Clayden, M.A. Classes in chemistry, physics, and biology (day or evening) are available here.

**Huddersfield Technical College.**

A full Minor course is given, Mr. J. B. Broadbent, Ph.C., instructing in pharmaceutical subjects on Wednesday afternoons; fee, 6*l.* 6*s.* per annum. Evening classes (chemistry, botany, and physics) cost 15*s.* 6*d.*, with an extra 25*s.* for afternoon pharmacy.

**Leeds College of Pharmacy.**

Principal: Mr. F. Pilkington Sargeant, Ph.C., F.C.S. Full-time classes for the Minor begin on October 15.

**Leeds Central Technical School.**

Secretary: Mr. James Graham, Educational Department, Leeds. A Minor course, under the general direction of Mr. J. H. Gough, Ph.C., and covering two sessions on three evenings a week, commences on September 16; fee, 3*l.* per session; preparatory course, 15*s.* per session. Preliminary examination classes are arranged at the Central School of Commerce, Woodhouse Lane, Leeds; fee, 30*s.* per session.

**Leicester Municipal Technical School.**

The Minor course is covered in three years, the school containing a specially fitted pharmacy department. Local chemists have arranged to allow their apprentices to attend the day instruction.

**Liverpool School of Pharmacy.**

18 Colquitt Street.

Principal: Mr. H. Humphreys Jones, F.C.S., Ph.C. A revision course for the October Minor begins August 15; fee, 4*l.* 14*s.* 6*d.* The full term, starting on September 11, continues till Christmas; fee, 10*l.* 10*s.* Other terms commence in January and April; fee, 9*l.* 9*s.* Two consecutive courses cost 16*l.* 16*s.* Part-time classes for beginners are held on Wednesdays, beginning September 11, and for advanced students on Tuesdays, commencing September 10; fee for course 3*l.*, or session 7*l.* 10*s.*

**Liverpool University.**

Special courses for the Pharmaceutical Society's examinations are held each academic year (October to July). The Junior course is adapted to the Minor, and the Senior course is suitable for the Major. Courses in chemistry, botany, materia medica, and pharmacy may be paid for separately, or a composition-fee of 18*l.* 18*s.* for the session's pharmacy course. Mr. Prosper H. Marsden is the lecturer in pharmacy and materia medica. Apply to the Registrar for the prospectus of the School of Pharmacy.

**Manchester University.**

The Minor and Major courses commence in the Pharmaceutical Department on October 1 and extend over six or nine months, the composition-fees being 15*l.* 15*s.* and 19*l.* 19*s.* respectively. Students with previous adequate knowledge of science subjects can arrange to attend one whole day each week. Degree courses in pharmacy are available here, several entrance scholarships being offered for competition suitable for students completing their apprenticeship. Post-graduate courses in pharmacology, therapeutics, and microscopy for the Institute of Chemistry's examination are also given. Mr. James Grier, M.Sc., is the pharmacy instructor.

**Northern College of Pharmacy,**

100 and 102 Burlington Street, Manchester.

Principal: Mr. E. G. Bryant, Ph.C., F.C.S. A four-month Minor course begins on September 2; fee, 10*l.* 10*s.* Three-month courses start on October 1 and in January and April; fee, 9*l.* 9*s.* Afternoon, once-a-week, and evening courses commence the first week in September and January; fees, 2*l.* 10*s.* to 4*l.* 4*s.* Major courses are also given.

**Manchester College of Pharmacy,**

225A and 227A Oxford Road.

Principals: Mr. C. Turner, F.C.S., Ph.C., and Mr. H. Brindle, F.C.S., Ph.C., Fairchild Scholar. The College opens on August 26, and full-time courses start in October.

**North of England School of Chemistry and Pharmacy,**

55 Northumberland Street, Newcastle-upon-Tyne.

Principal: Mr. J. Stableford Hill, Ph.C. A short course for the October examination begins in August; fee, 5*l.* 5*s.* Each ordinary three months' term begins on first Monday in October, January, or April; fee, 8*l.* 8*s.* Part-time classes are held on three evenings a week, and on Wednesdays from 2 P.M. to 9.30 P.M.; fee, 3*l.* 3*s.* per term. Major course, 7*l.* 7*s.* per term.

**Nottingham School of Pharmacy,**

13 Victoria Street.

Principal: Mr. S. Royce, Ph.C. Day courses for the Minor begin in September, October, January, and April. There are also afternoon and evening classes.

**Nottingham University College.**

Registrar: T. P. Black, M.A., Ph.D. Evening courses preparatory for the Minor examination cost 10*s.* 6*d.* per session, or 7*s.* 6*d.* each single class.

**Plymouth Municipal Science Schools.**

Principal: Mr. J. B. Brown, B.Sc. The evening pharmaceutical courses in chemistry and botany extend over four years. Fee, 10*s.* per session.

**Sheffield Central Secondary Schools.**

Principal: Mr. Iliffe, M.A. A pharmaceutical course will be held if the requisite number of students is forthcoming.

**Hartley University College, Southampton.**

Courses of chemistry, botany, and physics can be arranged for the Minor and Major examinations.

**North Stafford School of Chemistry and Pharmacy,**

Stoke-on-Trent.

Principal: Mr. E. Griffiths, Ph.C., Kidsgrove, Stoke-on-Trent. Complete day and evening courses for the Minor.

**Wolverhampton Municipal Science and Technical School.**

A three-year course of instruction for the Minor examination commences on September 16; fee 7*s.* per session. This is well worth the attention of local students.

**SCOTLAND.****Robert Gordon's Technical College, Aberdeen.**

Teacher at the School of Pharmacy: Mr. Gilbert Simpson, Ph.C. A short course begins on August 26, and ordinary terms on October 7, January 6, and April 7. The fees are: Short course, 3*l.* 3*s.*, or with succeeding term 8*l.* 8*s.*; ordinary term 7*l.* 7*s.*, and 6*l.* 6*s.* per term after the first. Evening classes held on Mondays, Tuesdays, and Fridays, begin on October 7; fees, 10*s.* 6*d.* to 1*l.* 1*s.* per subject.

**Royal Dispensary and School of Pharmacy of Edinburgh**

21 West Richmond Street.

Staff: Mr. William Duncan, Ph.C., F.C.S., Principal, and Messrs. W. Mackenzie, Ph.C., and E. J. Brown, Ph.C. The next session opens on October 2. Full terms also begin in January and April; fee 8*l.* 8*s.* per term. Evening classes are held on Mondays, Thursdays, and Fridays, commencing September 30; fee, 3*s.* for three months. Major course (three months) costs 10*l.* 10*s.*

**Central School of Pharmacy,**

26 Clyde Street, Edinburgh.

Staff: Mr. W. Beaverley Cowie, Ph.C., F.C.S., Principal, and Mr. B. McDonald Brander, Ph.C., Pereira medallist.

Complete Minor day courses begin early in October, January, and April; fee, 8*l.* 8*s.* per term. Evening classes are also held; fee, 3*l.* 3*s.* per term. Tuition for the Major examination can be arranged.

**Heriot Watt College,**

Chambers Street, Edinburgh.

Principal: Mr. A. P. Laurie, M.A., D.Sc. Evening courses in chemistry (fee 10*s.*), physics (5*s.*), botany (5*s.*), and pharmacutics (5*s.*), are available. Mr. William Duncan, Ph.C., F.C.S., is the lecturer on pharmacutics on Tuesday evenings. Day classes in chemistry are also held.

**Glasgow School of Pharmacy,**

Blythswood Chambers, 180 West Regent Street.

Staff: Mr. John Lothian, Ph.C., Medallist of the Pharmaceutical Society, Principal, and Messrs. Malcolm Irvine, Ph.C., Malcolm Mackinnon, M.A., and James Tulloch, M.A. A short tutorial day course for the October Minor begins on August 19; fee, 4*l.* 4*s.* The winter session begins October 7, and comprises three and six months' day course for Minor; fee, 8*l.* 8*s.* per quarter. There are also general and advanced evening classes in pharmaceutical subjects.

**The Royal Technical College, Glasgow.**

A three-year course for the Minor begins in September; fees, 2*l.* to 3*l.* 5*s.* per year. Separate subjects cost 7*s.* 6*d.* to 30*s.* per year.

**IRELAND.**

The practice of pharmacy in Ireland is controlled by the Pharmaceutical Society of Ireland, and the conditions differ somewhat from those prevalent in Great Britain, as there are two classes of qualified persons. The first, instituted under the Pharmacy Act of 1878, are pharmaceutical chemists, who can both retail poisons and compound medical prescriptions. The second class are registered druggists instituted under an amending Act of 1890, who, with the chemists and druggists then in business, are authorised to keep open shop for the sale of poisons, but may not compound medical prescriptions. There is also an additional qualification of assistants to pharmaceutical chemists, these being allowed to act as managers in the temporary absence of their principals.

Intending candidates should obtain the regulations for these examinations, which are published in pamphlet form, from the Registrar of the Pharmaceutical Society of Ireland, 67 Lower Mount Street, Dublin. The Society conducts its own

**Preliminary Examination,**

which should be passed prior to apprenticeship, and is essential for those who wish to take qualifications of pharmaceutical chemist, or assistant to a pharmaceutical chemist. The subjects are at present: Latin, English, arithmetic, algebra, geometry, elementary theoretical chemistry, and one of the following optional subjects: Elementary physics and mechanics, the rudiments of botany, French, German, or any modern language. On and after October 1, 1913, elementary chemistry, elementary physics and mechanics, and the rudiments of botany will be omitted from the subjects of the Preliminary examination, which will thus become one in Arts only. Provision is made so that no candidate who has entered on his studies will be penalised.

A pass with honours is awarded to candidates who obtain 70 per cent. of the total marks, with not less than 50 per cent. in each subject. The examination is held in Dublin on the first Thursday and following day in January, April, July, and October at 11 A.M. The fee, 2*l.* 2*s.*, has to be lodged with the Bank of Ireland to the credit of the Society, and the receipt forwarded to the Registrar along with birth certificate, at least fourteen clear days before the commencement of the examination. The fee for re-examination is 10*s.* 6*d.*

Any one of the following examinations is accepted in lieu of this Preliminary examination:

Matriculation or Preliminary examination of the University of Dublin, Public Entrance examination (large certificate).

The National University of Ireland, Matriculation examination.

The Royal Colleges of Physicians and Surgeons, Ireland, Preliminary examination.

Intermediate Education Board for Ireland, Junior, Middle, or Senior Grade examinations in English, Latin, arithmetic,



algebra, geometry, and Greek, or a modern language; or such other examination as shall be deemed by the Pharmaceutical Council as equivalent thereto, all the subjects having been passed at one time.

### Pharmaceutical Licence Examination.

A candidate for this qualification must be twenty-one years of age, and produce a declaration that he or she has served a *bona-fide* engagement for a term of four years as apprentice or assistant with and in the sole employment of a pharmaceutical chemist, chemist and druggist of Great Britain, or an apothecary, or a firm of legally qualified pharmaceutical chemists, chemists and druggists of Great Britain, or apothecaries, in an open shop, and the candidate must spend the business day with his employer. The last provision was made to prevent candidates obtaining the necessary declaration of service after spending a few hours daily with a pharmaceutical chemist, etc. Provision is made for service with more than one employer, and for those who have served four years with a chemist and druggist or registered druggist, two years further service with a pharmaceutical chemist or apothecary being required in the latter case.

Compulsory attendance is also required at a course of practical chemistry of not less than three months' duration (including 100 hours actual work at the laboratory bench) at an approved institution in the list below, as well as a course of botany and materia medica at one of the institutions indicated by an asterisk, or at the School of Physic, Trinity College, Dublin:

- \* Pharmaceutical Society of Ireland, School of Chemistry.
- \* School of the Pharmaceutical Society of Great Britain, Cecilia Street School of Medicine, Dublin.
- City of Dublin Technical Schools.
- \* Government School of Science, South Kensington.
- \* Queen's University, Belfast.
- \* Queen's University, Cork.
- \* Queen's University, Galway.
- Royal College of Science for Ireland, Dublin.
- Royal College of Surgeons in Ireland, Dublin.
- Trinity College, Dublin.
- Anderson's College Medical School, Glasgow.
- \* Royal Academical Institution, Belfast.
- \* The Municipal Technical Institute, Belfast.
- \* Mr. Templeton's School of Scientific Method and Chemistry, Belfast.
- \* Crawford Municipal Technical Institute, Cork.

Candidates who have not obtained their certificates for practical chemistry by October 1, 1913, will also have to complete at some approved school a course of not less than twenty-six lectures of one hour each on theoretical chemistry (attending at least twenty lectures) before entering upon the practical chemistry curriculum.

The examination itself is held at the Pharmaceutical Society's House, 67 Lower Mount Street, Dublin, on the second Wednesdays of January, April, July, and October, at 11 A.M. Candidates must give notice to the Council fourteen clear days before the date of the examination, and lodge with the Registrar a receipt of having paid the fee of 5*l.* 5*s.* into the Bank of Ireland to the credit of the Society. A birth certificate, the Preliminary examination certificate, a declaration as to service, and class certificates have to be sent with the application. The candidate should write well beforehand for the necessary forms and any additional information which may be required.

### THE SUBJECTS FOR THE EXAMINATION.

which is written, practical and oral, are:

**Botany.**—Recognition of the principal indigenous plants used in medicine, their natural orders, and characters of their several parts.

**Materia Medica.**—Recognition of B.P. drugs; their characters, active principles, sources, official preparations, and adulterations.

**Chemistry.**—Elementary laws of chemistry and physics, including equations. Recognition of B.P. chemicals; the processes by which they are obtained; qualitative analysis (including B.P. tests) and volumetric analysis; and a practical examination in these subjects. (The Council recommends Corby and Stewart's "Physics and Chemistry.")

**Practical Pharmacy.**—Translation of Latin prescriptions, detection of dangerous doses, and compounding and dis-

persing. Processes of making and recognition of B.P. non-chemical preparations, and an intimate knowledge of the Sale of Poisons (Ireland) Act.

The minimum pass percentage in pharmacy is 50, and in botany, materia medica, and chemistry 40 each, with 55 per cent. over all. Honours is given to those who take 70 per cent. of the total marks, with not less than 50 per cent. in any subject.

The conditions to be fulfilled for the

### Assistants to Pharmaceutical Chemists' Examination

are very similar to those for the licence, except that the candidate need not be twenty-one years of age, nor have taken the special courses of instruction. The examination is held quarterly on the Monday following the Licence examination, candidates rejected at the latter having time to enter for this one on payment of the fee of 1*l.* 1*s.* There is also a registration-fee of 1*l.* 1*s.* for new candidates. The subjects are prescription-reading and translation (with the detection of unusual doses), practical dispensing, materia medica, and pharmacy (chiefly recognition of non-chemical pharmacopœial preparations, giving proportions of active ingredients), and the laws relating to the sale of poisons.

### Registered Druggists' Examination.

Anyone who has served as an assistant or apprentice for not less than four years to a pharmaceutical chemist, chemist and druggist, registered druggist, or licentiate apothecary keeping open shop is eligible for entry to this examination. Application has to be made to the Registrar at least fourteen days before the date of the examination, which is held in Dublin and Belfast (if twelve candidates enter for the latter) on the second Tuesdays of January, April, July, and October. This must be accompanied by the necessary certificates of service and a receipt for 4*l.* 4*s.* (examination-fee 2*l.* 2*s.* and registration-fee 2*l.* 2*s.*) paid to the Bank of Ireland to the credit of the Society. The subjects of the examination are:

English orthography and composition.  
Arithmetic and the weights and measures of the British Pharmacopœia.

The appearance and properties of the various drugs and chemicals in general use.

The Sale of Poisons (Ireland) Act.

Six months must elapse before the unsuccessful candidate can re-enter for any of the Irish Society's examinations. The fees for re-examination are: Pharmaceutical Licence, 2*l.* 2*s.*; Assistant to Pharmaceutical Chemist, 10*s.* 6*d.*; Registered Druggist, 10*s.* 6*d.* The questions set at all the written examinations of the Society are printed in the Calendar, which may be obtained from the Registrar for 2*s.* 3*d.* post free.

Approved classes of instruction in certain subjects for the Licence examination of the Pharmaceutical Society of Ireland are provided at the educational establishments referred to below.

### Pharmaceutical Schools of Chemistry, Botany, and Materia Medica,

67 Lower Mount Street, Dublin.

Directors: Chemistry School, Professor P. Kelly, L.P.S.I.; Botany and Materia Medica School, Dr. T. Mather Thompson, L.P.S.I., and Dr. J. A. Clarke, B.A. There are three sessions, commencing on the first day in October, January, and April. The fees for courses to meet the Society's regulations are: Practical chemistry (six months), 6*l.* 6*s.*; practice course (three months), past students, 2*l.* 2*s.*, students of other schools, 3*l.* 3*s.*; botany and materia medica (three months), 2*l.* 2*s.* The practical chemistry class is held on Monday, Wednesday, and Friday evenings, but a day class (three months) begins on April 1; fee, 6*l.* 6*s.* A day practice course also begins in April. The botany and materia medica classes are held on Tuesday and Thursday evenings, with occasional Saturday demonstrations. The chemistry and materia medica courses are recognised by the Royal Colleges of Physicians and Surgeons in Ireland.

### Municipal Technical Institute, Belfast.

The Pharmaceutical Section of the Pure and Applied Chemistry Department provides full courses in chemistry,



botany, materia medica, and pharmacy. For particulars apply to the Principal.

#### School of Scientific Method and Chemistry,

*The Gables, Botanic Avenue, Belfast.*

Principal: Mr. S. Templeton, Assoc. R.C.S., F.I.C. The fees for the full courses of instruction for the Licence examination of the Pharmaceutical Society of Ireland are: Chemistry, 1*l.* 1*s.*; practical chemistry (100 hours), 4*l.* 4*s.*; botany, 1*l.* 1*s.*; materia medica, 1*l.* 1*s.*; pharmacy, 1*l.* 1*s.* The new terms begin on September 2 and January 6. Short revision courses, in all subjects, are conducted daily, beginning two months previous to each Licence examination; fee, 1*l.* 1*s.* and upwards. There are also classes for the Pharmaceutical, Preliminary, Pharmaceutical Assistants', and Druggists' Licence examinations.

#### Apothecaries' Assistants.

The Society of Apothecaries, London, and the Apothecaries' Hall in Ireland, Dublin, grant certificates of competency to act as dispensers to apothecaries. These certificates do not authorise the holders to keep open shop for the retailing of poisons, but they are much sought after, especially by ladies, who are desirous of acting as dispensers to doctors or in institutions which accept the certificate as evidence of skill in compounding. Apothecaries' assistants will be able to act as dispensers under the National Insurance Act if supervised by a person qualified under the Pharmacy Acts.

*The Society of Apothecaries of London* holds examinations at the Apothecaries' Hall, Blackfriars, on the fourth Mondays in January, April, July, and October. The examination is in two parts—oral and practical—comprising the compounding and dispensing of medicines; chemistry; materia medica and pharmacy; and the translation of prescriptions. Candidates must be eighteen years old [on and after January 1, 1913, the minimum age will be nineteen, and a certificate of general education will also be required] before the certificate can be granted. The entry-form must be filled in and returned with the proper examination-fee (5*l.* 5*s.* for first appearance and 3*l.* 3*s.* for re-examination) at least fourteen days before the date of examination. A certificate must also be sent showing that special instruction has been taken in practical pharmacy for six months. The latter declaration must be signed by a registered medical practitioner, or an assistant of the Society holding a public appointment, or a legally qualified chemist. A copy of the regulations can be obtained on written request from the Secretary of the Court of Examiners, Mr. Frank Haydon, L.R.C.P.

*The Apothecaries' Hall of Ireland*, 40 St. Mary Street, Dublin, holds an examination for the certificate of assistant on the first Friday of each month except August. Candidates must be eighteen years of age, and have spent two years at practical pharmacy under the superintendence of a registered apothecary or pharmaceutical chemist, and show that they are of good moral conduct. The subjects of the examination are: Practical and theoretical pharmacy, materia medica, antidotes for poisons, pharmaceutical chemistry, and the metric system of weights and measures. Notice must be given and the fee, 4*l.* 4*s.*, paid to the Secretary at the above address at least seven days prior to the examination.

#### Degrees in Pharmacy

are granted by two Universities—viz. Manchester and Glasgow. So far very few persons have availed themselves of the opportunity of becoming graduates in pharmacy.

**Manchester.**—The course of instruction after Matriculation in the Pharmaceutical Department of the University extends over three years, preparing the student to take the Minor examination (first year), the Major examination (second year), and to graduate in three years. There are two examinations for the degree itself. The Intermediate examination at the end of the first year in: (i) physics, with practical work; (ii) chemistry, with practical work; (iii) botany, with practical work; and the Final examination in: (i) chemistry, including pharmaceutical chemistry; (ii) two of the following: botany (including pharmaceutical botany), materia medica, pharmacology, bacteriology, toxicology, analysis of food and drugs. Full particulars are given in the Prospectus of the Pharmaceutical Department, University of Manchester.

**Glasgow.**—The conditions under which the degree of Bachelor of Pharmacy is granted are similar to those for science degrees. A detailed statement of the studies recommended is contained in the regulations for the degree (pub-

lished by Messrs. J. MacLehose & Sons, 61 St. Vincent Street, Glasgow). There are two examinations: *First Science Examination* in mathematics or biology (i.e., zoology and botany), natural philosophy, and chemistry; and *Final Science Examination* in chemistry, botany, materia medica, and pharmacy. Before entering for the Final, candidates must *inter alia*, be registered chemists and druggists or graduates in medicine.

#### BOOKS FOR STUDENTS.

This year we intend to give students an outline of the books which are suited to the various stages of education in pharmacy and allied subjects from the commencement of apprenticeship until taking the Major diploma. For home study during apprenticeship the British Pharmacopœia, 1898 (Spottiswoode), 10*s.* 6*d.*, should be the student's guide. This can be advantageously replaced in many respects by Squire's "Companion" (Churchill), 12*s.* 6*d.*, which is an invaluable book of reference for pharmacy students. In dispensing practice "The Art of Dispensing" (C. & D. Office), 6*s.*, is the best guide. For exercise in Latin and prescription-reading Ince's "Latin Grammar of Pharmacy" (Baillière), 5*s.*, and Bennett's "Medical and Pharmaceutical Latin for Students of Pharmacy" (Churchill), 6*s.*, are well adapted for this purpose. This subject is quite easy for anyone who does not allow the knowledge he gained in passing his Preliminary examination to lapse. Almost any simple book on theoretical chemistry will do, but Atkfield's "Chemistry" (Gurney & Jackson), 15*s.*, is the favourite with pharmaceutical students. In practical chemistry there is a plethora of works on qualitative analysis, and that by Perkin (Churchill), 3*s.* 6*d.*, is one of the most up to date we know of. The easiest introduction to botany is J. W. Oliver's (Birmingham) "Elementary Botany" (Blackie), 2*s.*, but Lowson's "Text-book of Botany" (Clive), 6*s.* 6*d.*, is one greatly favoured by students of pharmacy. Those who wish to gain an admirably connected account of the internal structure of flowering plants should read Scott's "Introduction to Structural Botany," Part I. (flowering plants), 3*s.* 6*d.* Dobbin's "Arithmetical Exercises in Chemistry" (Thin), 1*s.*, will afford plenty of exercises in calculations, and "The C. & D. Dose Tables for Pharmaceutical Students" (C. & D. Office), 3*d.*, is useful for carrying in the waistcoat pocket to learn a few doses at odd moments.

When the student goes to College he will naturally require the books which are used at that institution. The following are some which should be included if possible in every student's library: Martindale's "Extra Pharmacopœia" (Lewis), 2*s.*, in 2 vols., is invaluable for reference purposes. Greenish's "Introduction to Materia Medica" (Churchill), 15*s.*, is the most readable book on the subject, while Southall's "Organic Materia Medica" (Churchill), 7*s.* 6*d.* net, is very complete. White and Humphrey's "Pharmacopœia" (Kimpton), 10*s.*, treats the chemistry and materia medica of the B.P. very fully, and Lucas's "Practical Pharmacy" (Churchill), 12*s.* 6*d.*, is the book *par excellence* for explaining pharmaceutical processes. Gadd's "Synopsis of the British Pharmacopœia" (Baillière), 1*s.*, and "Poisons and Pharmacy Act, 1908" (Baillière), 1*s.*, are useful pocket-guides. All these are well adapted for Minor students.

In working for the Major, Cohen's "Practical Organic Chemistry for Advanced Students" (Macmillan), 3*s.* 6*d.*, gives practical methods for making organic compounds, and Clowes and Coleman's "Quantitative Chemical Analysis" (Churchill), 10*s.*, is almost a necessity for gravimetric and volumetric analysis. For practical microscopical work Greenish's "Microscopical Examination of Food and Drugs" (Churchill), 10*s.* 6*d.*, is required as well as almost any good book on heat and light, and electricity and magnetism. In botany, besides a good text-book on elementary botany such as Strasburger's or Green's "Manual of Botany," Part II. (flowerless plants) of Scott's "Introduction to Structural Botany" should be purchased. In the field, Hayward's "Botanist's Pocket-Book" (Bell), 4*s.* 6*d.*, is usual, and for practical work Gwynne-Vaughan's "Practical Botany for Beginners" (Macmillan), 3*s.* 6*d.*, gives ample experiments.



## Chemical Science.

PHARMACY has provided in the past famous men of science, and it is still the best training possible for anyone taking up later any of the more specialised branches of chemistry, physics, and botany. The tendency of our best pharmaceutical students to graduate at Universities or pass into the analytical profession is growing, and this fact makes it necessary that this issue should include brief particulars of the various courses which may be followed in taking up chemistry as a profession.

A science degree is accepted as evidence of theoretical training, but does not count for much as regards technology, and the holder has usually to get further experience before he can command anything like respectable remuneration. On the other hand, for the examinations of the Institute of Chemistry it is necessary for the successful candidate to have considerable practical knowledge, which makes the A.I.C. or the F.I.C. valued more highly. It is not essential to have any qualification to set up as an "analyst," but competition is so keen in this profession nowadays that anyone without a reputation already made could not expect to go far without having some special qualification. For the pharmacist, Branch E (Food and Drugs, etc.) of the Institute of Chemistry's Final examination possesses special attraction, as the Local Government Board now practically insists that the holder of public analytical appointments should hold this certificate, which is one the pharmaceutical student who has fulfilled the necessary conditions finds little difficulty in taking. It is also usual for these to proceed to a degree in science, the two of them being worked for concurrently. Either qualification practically means a three years' curriculum, although it is possible to take the external degrees of the University of London or the National University of Ireland without undergoing a curriculum, these degrees admitting graduates to the Intermediate examination of the Institute, also *sine curriculo*.

### Analytical and Technical Chemistry.

THE INSTITUTE OF CHEMISTRY OF GREAT BRITAIN AND IRELAND, 30 Bloomsbury Square, London, W.C., founded in 1877, was formed to elevate professional chemistry by promoting the better education of persons desirous of becoming analysts or chemical advisers by examining candidates and granting certificates of competency, and by insisting on the observance of strict rules of professional conduct. The Associateship (A.I.C.) and Fellowship of this Institute (F.I.C.) are definite qualifications. For particulars of the necessary training and examinations, the student should write to the Registrar at the above address for the Institute's book of regulations, which is supplied *gratis*. It also contains lists of approved certificates. The following is an outline of regulations:

Admission to the *Studentship* is open to candidates at least seventeen years old who have passed an approved Preliminary examination and who are at the time of application training at a recognised institution or under a Fellow of the Institute. The student's annual registration-fee is 5s.

Candidates before entry to the *Intermediate examination* must have passed an approved Preliminary examination, and have studied at an approved college for three years, or become pupils with a Fellow of the Institute for two years and attended college for two more years, or graduated in chemistry and physics at a recognised university. The course of study required includes theoretical and practical chemistry, physics, mathematics, and a fourth subject selected from the following: Higher physics, advanced mathematics, mechanics or chemical engineering, metallurgy, geology and mineralogy, physiology, bacteriology, agriculture, elementary botany, or elementary biology. The fee for this examination is 5l. 5s.

Candidates who have taken first or second class Honours in chemistry or have obtained special distinction in chemistry for the degree examination of an approved university, can, generally speaking, be admitted directly to the Final examination of the Institute.

All candidates must pass the *Final examination* (fee 5l. 5s., or for candidates exempted from the Intermediate examination 10l. 10s.). In addition to a general knowledge of chemistry, special knowledge is required in the one branch for which the candidate enters—viz., mineral chemistry,

metallurgical chemistry, physical chemistry, organic chemistry, analysis of food, drugs, fertilisers and feeding-stuffs, soils, and water (including a compulsory examination in therapeutics, pharmacology, and microscopy), or biological chemistry. Candidates for the examination in chemistry of food and drugs, etc., which is recognised by the Local Government Board in connection with appointments of public analysts, are now required to produce evidence of training in elementary botany. Candidates in the branch of biological chemistry must show that they have taken a course of elementary biology. All candidates for the Final examination are required to translate French and German technical literature into English, with the aid of dictionaries, to the satisfaction of the examiners.

On passing the Final examination the candidate is eligible for election as an Associate of the Institute of Chemistry, the Fellowship being conferred three years later if evidence be produced that the Associate has during that time been continuously engaged in analytical chemistry. Associates or Fellows are allowed to enter for further examinations in any of the following branches only: (1) Food and drugs, to qualify for public analyst, fee 5l. 5s.; (2) biological chemistry, fee 5l. 5s.; (3) special examination in technological chemistry, for which practical technological training is required in the branch selected—e.g., gas-manufacture, steel-manufacture, or the fat and oils industry—fee 3l. 3s. Special certificates are given to candidates who pass these examinations. The entrance fee to the Fellowship is 5l. 5s. There is also an annual subscription for Fellows and Associates of 1l. 1s., or a life composition-fee of 21l.

IMPERIAL COLLEGE OF SCIENCE AND TECHNOLOGY.—This institution or group of associated colleges at South Kensington was incorporated in 1907 for giving highly specialised instruction in industrial science. It carries on the work of the Royal College of Science, the Royal School of Mines, and the City and Guilds (Engineering) College (formerly known as the Central Technical College) is an integral part. Candidates for admission to the Royal College of Science must be over seventeen years old, and show that they have received a good secondary education. Candidates for admission to the Royal School of Mines and to the City and Guilds (Engineering) College are required to pass the respective Entrance examinations. The diploma of A.R.C.S. is issued after three years' satisfactory study in mechanics, physics, chemistry, botany, zoology, and geology, and of A.R.S.M. after a satisfactory four years' training in mining and metallurgy. A department of Chemical Technology is in course of organisation under the general direction of Professor W. A. Bone, D.Sc., Ph.D., F.R.S., and pending the erection of a new building for this department the following courses of advanced lectures, with laboratory work, will be given in the Chemistry Department of the Royal College of Science (Professor and Director of the Chemical Laboratories, Dr. H. Brereton Baker, M.A., F.R.S.): (i) Chemistry of gases and combustion (including gas-analysis); (ii) technology of fuel; (iii) the design and erection of chemical plant. The diploma of the Imperial College of Science and Technology (D.I.C.) is also awarded. For this and other particulars see the Calendar of the Imperial College, published by Messrs. Eyre & Spottiswoode, Ltd., London, E.C., price 6d. The college fees for diploma courses are: Royal College of Science, 36l. a year; Royal School of Mines, 45l. a year; City and Guilds (Engineering) College, 38l. a year.

THE CITY AND GUILDS OF LONDON INSTITUTE includes among its four main branches the City and Guilds (Engineering) College and the City and Guilds Technical College, Finsbury, where specialised training in technological subjects, including electrical and mechanical engineering and industrial and technical chemistry, is afforded.

The works chemist is of necessity rapidly becoming a specialist, and his claim as an important factor in modern industry is forcing itself more and more upon its controllers. In many industrial centres the staple trade of the district naturally forms an important part of the technical training available at local institutions, and it is to these that the student specialising early must turn.



### Degrees in Science.

All the Universities in the United Kingdom, except the University of London and the National University of Ireland, require the student to undergo after matriculation a curriculum of at least three academical years before granting him a science degree.

The University of London conducts examinations for Internal and External students, the former having to undergo, after registration, courses of training at a school of the University or under recognised teachers. Before entering upon their courses of training the intending graduate should apply to the Principal, University of London, South Kensington, London, S.W., for regulations regarding degrees in science. A year must elapse after matriculation before entry for the *Intermediate examination* (fee 5*l.*) is permitted. Four subjects from the following, including at least one from the first three, must be taken: Pure mathematics, applied mathematics, experimental physics, chemistry, botany, zoology, and geology, and (external candidates) military science. External candidates may take honours in any subject except military science, but little advantage accrues from this, as the compulsory number of subjects is not decreased thereby. The *Final examination* (fee 5*l.*) may be taken one year after passing the Intermediate, but three years must elapse between the Final and Matriculation examinations. Three out of ten (internal) or eleven (external) prescribed subjects are to be taken in the Pass Final examination. Honours candidates take only one subject (of a much higher standard) along with an appropriate subsidiary subject. Degrees (including the *Doctorate in Science*) are also granted by research.

The English Provincial Universities.—Similar subjects to the above are required, the examinations following on the lines of the approved course of study provided at each University. Full particulars are given in the Calendars of the respective Universities at Birmingham, Bristol, Leeds, Liverpool, Manchester, and Sheffield.

At Scottish Universities the intending graduate in science need take only four of the seven subjects in his three years' curriculum at the University whose degree is desired.

The National University of Ireland permits the graduate in any Faculty of the University to present himself for the degree examination in science on payment of a fee of 1*l.* There is a further fee of 3*l.* on admittance to degree.

### Technical Instruction.

The following are the chief institutions at which courses in pure science and technological subjects are available:

#### LONDON.

+ BATTERSEA POLYTECHNIC, Battersea Park Road, S.W.—Complete day and evening courses in chemistry, botany, physics, and engineering. There are also special evening classes in bacteriology; food and drug analysis; oils, fats, and soaps; and "recognised" London B.Sc. courses.

+ BIRKBECK COLLEGE, Bream's Buildings, Chancery Lane, E.C.—Complete courses (day and evening) for science degrees. Secretary, Mr. H. Wells Eames.

+ BOROUGH POLYTECHNIC, Borough Road, S.E.—A series of ten technical lectures on essential oils commences on October 2. Practical work is arranged after each lecture. Foodstuffs, electro-chemistry, and laundry materials are the subjects of other lecture-courses. Chemistry classes are also held. Principal, Mr. C. T. Mills.

+ CITY OF LONDON COLLEGE, White Street, Moorfields, E.C.—Evening classes in chemistry (pure and industrial) and botany cost 10*s.* to 30*s.* for non-members; also Minor chemistry course, fee 30*s.* to non-members. Secretary, Mr. David Savage.

\* EAST LONDON COLLEGE, Mile End Road, E.—Classes in chemistry, physics, and botany; Intermediate and Final Pass B.Sc. courses; day 10*l.* 10*s.*, evening 5*l.* 5*s.* Special facilities for research and post-graduate work. Principal, Mr. J. L. S. Hatton, M.A.

+ GOLDSMITHS' COLLEGE, New Cross, S.E.—Degree classes (evening) in chemistry, botany, physics, and other sciences. Science courses 2*l.* 2*s.* to 4*l.* 4*s.* Warden, Mr. W. Loring.

\* Schools of the University of London.

+ Institutions having teachers recognised by the University of London.

\* IMPERIAL COLLEGE OF SCIENCE AND TECHNOLOGY, South Kensington, S.W.—Degree and diploma courses in science and engineering. Sessional fees, 36*l.* to 45*l.*

\* KING'S COLLEGE, Strand, W.C.—Composition-fee in the Faculty of Science, 31*l.* 10*s.* per annum.

+ NORTHERN POLYTECHNIC INSTITUTE, Holloway, N.—Degree courses (day) in science, fees 6*l.* 6*s.* to 15*l.* 15*s.*; evening classes, single subjects, fees 5*s.* to 50*s.* Secretary, Mr. W. M. Macbeth.

\* ROYAL HOLLOWAY COLLEGE, Englefield Green, Surrey.—For women students only, mainly residential. Degree courses in science, fee 33*l.* 6*s.* 8*d.*, or without residence, 12*l.*

+ SIR JOHN CASS TECHNICAL INSTITUTE, Jewry Street, Aldgate, E.C.—Evening courses in chemistry, physics (fees 4*s.* to 10*s.*), and also special courses on the fermentation industries, fuel, and metallurgy (fees 5*s.* to 30*s.*). B.Sc. course provided (composition-fees 30*s.* to 3*l.*). Principal, Dr. Chas. A. Keane, F.I.C.

+ SOUTH-WESTERN POLYTECHNIC, Manresa Road, Chelsea, S.W.—Evening courses in chemistry and botany. B.Sc. day course, 15*l.* per session; evening, 3*l.* per session. Secretary, Mr. H. B. Harper.

+ TECHNICAL COLLEGE, Leonard Street, Finsbury, E.C.—Constituent of City and Guilds of London Institute. Fees for courses in industrial chemistry, 20*l.* per session.

\* UNIVERSITY COLLEGE, LONDON, Gower Street, W.C.—Fees for three years' complete B.Sc. course, including chemistry, 111*l.* 1*s.* Secretary, Mr. W. W. Seton, M.A.

WANDSWORTH TECHNICAL INSTITUTE, High Street, Wandsworth, S.W.—Evening classes in science; fee, 7*s.* 6*d.* to 15*s.* per subject.

+ WEST HAM TECHNICAL INSTITUTE, Romford Road, E.—Evening and day classes in chemistry and physics.

+ WOOLWICH POLYTECHNIC, Lower Market Street, Woolwich.—Instruction is given in chemistry and botany. Fees 7*s.* 6*d.* to 12*s.* 6*d.* Principal, Mr. A. F. Hogg, M.A.

### THE PROVINCES.

ABERDEEN.—University.—Degree courses in science.

ABERYSTWYTH.—University College of Wales.—Fee for the science course, 16*l.* per session, inclusive of practical work.

BANGOR.—University College of North Wales.—Inclusive fees as at Aberystwyth.

BARROW-IN-FURNESS.—Technical Schools, Abbey Road.—Evening classes in chemistry, fee 7*s.* 6*d.* to 10*s.* per session.

BELFAST.—Queen's University of Belfast.—Class fees in the Faculty of Science, 1*l.* 1*s.* to 3*l.* 3*s.*, except practical chemistry, the fee for which is 7*l.* 7*s.*

BIRMINGHAM.—University.—B.Sc. degree course in pure science costs about 12*l.* 12*s.* to 23*l.* per annum. Municipal Technical School, Suffolk Street.—Evening classes in science. Fees, 5*s.* to 15*s.* per session.

BRADFORD.—Technical College.—Day course for science qualification or technological (dyeing) subjects, fee 13*l.* Evening: B.Sc. course, 21*s.*

BRIGHTON.—Municipal Technical College.—Day courses for London University examinations. Fee, 5*l.* 5*s.* per term.

BRISTOL.—University.—Degree courses in science. Also evening classes in chemistry and botany: fee 15*s.* per session. Merchant Venturers' Technical College.—Chemistry and physics classes (evening), 7*s.* 6*d.* to 10*s.* per subject. Day classes are also held.

CARDIFF.—University College of South Wales and Monmouthshire.—Classes are given in science subjects.

CORK.—University College.—A constituent College of the National University of Ireland. Class fees usually 1*l.* to 3*l.*, except practical chemistry, 5*l.* Registrar, Mr. J. P. Molohan, M.A.

DERBY.—Technical College.—Classes in chemistry, botany, and physics. Fees: Day, 10*l.* 10*s.* per course, or 10*s.* 6*d.* per subject per term (except pharmaceuticals, 1*l.* 1*s.*); evening, 10*s.* 6*d.* to 1*l.* 1*s.* per annum. Registrar, Mr. J. L. Rees.

DUBLIN.—Royal College of Science.—Three years' course for A.R.C.Sc.I. Registrar, Mr. P. A. E. Dowling.

DUNDEE.—University College.—Day classes in botany, chemistry, and physics; fees, 1*l.* 11*s.* 6*d.* to 4*l.* 4*s.* for each winter or summer session. Technical College.—Instruction in elementary science is available.

EDINBURGH.—Heriot Watt College, Chambers Street.—The composition-fees for the day chemistry course, recognised by the University of Edinburgh and the Institute of Chemistry, are 12*l.* 12*s.* to 15*l.* 15*s.* for the winter course and 3*l.* 3*s.* for the summer laboratory course. Evening classes in science subjects (including chemistry, botany, physics, pharmaceuticals and mycology) cost from 5*s.* to 21*s.* per session.

EXETER.—Royal Albert Memorial University College.—Degree course in science; composition-fee, 12*l.* 12*s.* to 18*l.* 18*s.* per annum. Evening classes in science, 5*s.* to 10*s.* per subject each session. Registrar, Mr. A. Woodbridge.

GALWAY.—University College.—A constituent College of the National University of Ireland. Courses and fees as at Cork.



GLASGOW.—*University*.—Degree courses in science, the class fees ranging from 1*l.* 1*s.* to 4*l.* 4*s.* per session for each subject, with higher fees (10*l.* 10*s.*) for practical chemistry. *Technical College*.—Day classes in chemistry, 1*l.* 11*s.* 6*d.* to 3*l.* 3*s.* Also evening classes in chemistry, and technical chemistry (oils and fats, fuel, gas manufacture), physics, botany, and bacteriology, from 2*s.* 6*d.* to 2*l.*

HALIFAX.—*Municipal Technical College*.—Evening classes in chemistry, 7*s.* 6*d.* per course.

HUDDERSFIELD.—*Technical College*.—Full-day (fee, 6*l.* 6*s.* per session) and evening courses (fee, from 10*s.* 6*d.* per session) in chemistry, physics, botany, and other science and technological subjects. Secretary, Mr. T. Thorp.

HULL.—*Municipal Technical College, Park Street*.—Evening classes in all stages of organic and inorganic chemistry. Special opportunities are offered for University work. Fees, 5*s.* to 10*s.* per course. Principal, Mr. T. Luxton.

LANCASTER.—*The Storey Institute*.—Evening classes in chemistry, physics, and biology. Fee, 4*s.* per subject, or 7*s.* 6*d.* per course (including practical work).

LEEDS.—*University*.—Lecture courses in science degree subjects. Composition-fee, 27*l.* per session. *Central Technical School, Cookridge Street*.—Evening courses in chemistry, adapted to the University degrees and diplomas in science. Sessional fee, usually 7*s.* 6*d.*

LIVERPOOL.—*University*.—Degree courses in science; fees, 3*l.* to 4*l.* per course. Laboratory, 6*l.* to 21*l.*

MANCHESTER.—*University*.—Degree courses in science (including pharmacy). Fees, 20*l.* to 30*l.* per session. Registrar, Mr. Ed. Fiddes, M.A. The *School of Technology* also provides science instruction.

NEWCASTLE-UPON-TYNE.—*Armstrong College*.—Fees for curriculum of B.Sc. Durham in pure science, 60*l.* Evening classes are held. Secretary, Mr. F. H. Pruett, M.A.

NOTTINGHAM.—*University College*.—London University B.Sc. course. Composition-fee, 6*l.* per term. Evening classes in chemistry, physics, botany, and materia medica. Fees, 7*s.* 6*d.* to 10*s.* 6*d.* per course. Registrar, Dr. T. P. Black.

PLYMOUTH.—*Municipal Science, Art, and Technical Schools*.—Day courses in science subjects cost 1*l.* to 5*l.* 5*s.* per subject, or degree course 12*l.* 12*s.* to 15*l.* 15*s.* per session. Evening classes 5*s.* to 10*s.* each, or course of study 10*s.* Education Secretary, Mr. E. Chandler Cook.

READING.—*University College*.—B.Sc. course of London University examination, 24*l.* per session. Materia-medica class (Wednesday afternoons), 1*l.* per course. Evening classes in chemistry and botany, 5*s.* to 12*s.* 6*d.* each.

ST. ANDREWS.—*United College*.—Class fees in University degree course cost 2*l.* 2*s.* to 4*l.* 4*s.* for each winter and summer session.

SHEFFIELD.—*University*.—Degree courses in science. Sessional lecture fees, 1*l.* 11*s.* 6*d.* to 4*l.* 4*s.* per course; laboratory fees, 2*l.* 12*s.* 6*d.* to 16*l.* 16*s.* per session. Evening classes in botany, chemistry, and physics, fee 10*s.* 6*d.* per course for each subject, and practical work 1*l.* 10*s.*

SOUTHAMPTON.—*Hartley University College*.—Composition-fee for B.Sc. courses, 24*l.* per session. Evening classes in science subjects at low fees.

SWANSEA.—*Technical College*.—Chemistry, physics, and botany at evening classes. Fees: Lectures, 5*s.*; practical work, 10*s.* per subject. Day courses are held. Principal, W. Mansergh Varley, M.A., D.Sc., Ph.D.

### Optical Diplomas.

Since we first—over thirty years ago—pointed out the suitability of the optical trade as a branch of the chemists' business a good many things have happened. These, it is fair to say, have all been in the direction of placing the opticians' business on a more scientific basis. Rule of thumb formerly reigned supreme, whereas to-day the accuracy which follows upon an understanding of the principles of a science is both demanded and supplied. This progress has been entirely in favour of the chemist and druggist, who by his training and education is particularly adapted to take up the fitting and supply of spectacles. He has been aided in this by the educational requirements of modern opticians, and these have been stimulated in a pronounced manner by the institution of examination schemes. Thus it comes about that information regarding the qualifications and instruction of opticians is looked upon as a normal feature of this annual Educational Number.

A chemist who intends taking up the subject should obtain first a copy of "The Chemist-Optician" (4*s.*, Office of the *C. & D.*), which we publish to show the scope of the knowledge required. We also strongly advise aspirants to obtain an optical diploma, which is evidence

that the holder has gone through a proper training. This is a suitable place to mention that the Society of Chemist-Opticians, which was founded in 1904, is one to which opticians, or prospective opticians, should belong. Membership carries with it a weekly journal ("The Optician") and certain concessions in the way of fees charged by optical tutors. The Hon. Secretary is Mr. J. Harcombe Cuff, 25 Friern Barnet Road, London, N.

There are two diploma schemes now working in this country. Of these the best known is that of

THE SPECTACLE MAKERS' COMPANY, 11 Temple House, Temple Avenue, London, E.C. The diploma scheme of the Company was founded in 1898, and has been revised at intervals on progressive lines. The Company take a fatherly interest in their diploma-holders, and periodically advertise the names in the pages of the leading journals. Recently a general policy of insurance in favour of S.M.C. diplomates was taken out. This covers certain legal risks incidental to the profession of sight-testing, and is only provisional, an individual insurance scheme being in contemplation. There are now 800 holders of the Company's diploma, and a good proportion of these are also chemists. The examination syllabus has been printed in *THE CHEMIST AND DRUGGIST* on more than one occasion, so that it will only be necessary to give the main features of the scheme, which are as follows:

There are two divisions of the examinations for the diploma in visual optics and sight-testing:

(1) The Preliminary examination, consisting of (a) mathematics and arithmetic, (b) a *viva-voce* examination in general and practical optics, and (c) a written examination in optical calculations and practical optics, and

(2) The Final examination, consisting of (d) a practical examination in the optical analysis of lenses, (e) practical examination in frame adjustments and measurements, optical prescriptions, and in lens setting, (f) *viva-voce* examinations in visual optics, (g) written examination in visual optics, and (h) practical examination in the adaptation of lenses to correct errors of vision.

Candidates over the age of forty years, who have spent ten years in the optical industry, are exempt from section c of the Preliminary examination. The next examination will be held at St. Bride Institute, Ludgate Circus, E.C., in the week commencing November 4. Entries must be received on or before September 30.

The books recommended in the syllabus are: Conderdine and Barnes's "Practical Mathematics"; Laurance's "General and Practical Optics"; Thompson's "Optical Tables and Data"; Phillips's "Spectacles and Eyeglasses"; Laurance's "Visual Optics and Sight Testing"; Hartridge's "Refraction"; Taylor's "Key to Sight Testing"; Glazebrook's "Heat and Light"; Percival's "Optics"; Ganot's "Physics"; Tscherning's "Physiologic Optics"; Glazebrook's "Practical Physics"; Johnson's "Photographic Optics"; Maddox's "Ophthalmological Prisms"; Taylor's "Frame-fitting"; and the "Optician's Handbook." The fees are three guineas for each examination, and in addition the diploma costs four guineas. Those who take up the freedom of the City of London, which they are entitled to when they have become freemen of the Spectacle Makers' Company, can do so on payment of one guinea. There are small annual payments to the Company for "quarterage." The full prospectus, with application form, can be obtained from the Clerk of the Company, Colonel T. Davies Sewell, F.R.A.S., 11 Temple House, Temple Avenue, London, E.C.

To give an idea of the Spectacle Makers' examination we append the experiences of a chemist who underwent the ordeal in May:

Presenting myself at St. Bride Institute, Ludgate Circus, London, E.C., at 10 A.M., my first subject was general optics. *viva voce*. I was asked what I understood by equivalent focal length? How to find the refracting angle and angle of minimum deviation of a prism? I spent but a few minutes at this table, when I was sent to bench work. The option was given of either constructing Snellen's letters A, B, and F, to be read in a mirror at seventeen metres, or of constructing a tangent scale and thus ascertain power of three given prisms. I chose the former, doubling the



distance for the mirror and laterally inverting the letters. Bench-work consisted of finding the power of three given lenses, a convex, concave, and a cylindrical. Again *viva voce*, on lenses chiefly. I was asked, for instance: Is a Geneva lens measure accurate for all kinds of glass? Can it be used for glass with a refractive index 1.8? How does a convex glass placed before the eye cause magnification? What is a tangent scale? This concluded my morning's work.

In the evening the written examination was held, when I had to tackle a fairly stiff paper on General and Practical Optics.

My first subject next morning was face measuring for frames for distance and for presbyopic conditions, *i.e.* for reading, the ten minutes allowed being ample. Next came neutralising, half a dozen lenses and a prism being given, and the time allowed was half an hour. The next subject involved the following questions: What is convergent strabismus due to? What happens if a hypermetrope does not sufficiently accommodate when reading, the answer required to this being an indistinct image, but no squint. The next subject was sight-testing. I chose two out of a number of slips on a table, the numbers on which corresponded to my "patients," who were then called into the room. I found both to be hypermetropic, and brought them both down to the normal line. Finally, testing for heterophoria, I found a little hyperphoria and exophoria in one of the men, whose age, by the way, was sixty-eight. I found much less difficulty here than I had anticipated, finishing well within the hour allowed.

After a fairly long interval I went once more to the examiner I met first, who scrutinised the prescriptions I had written, and from what he said I concluded that I had prescribed reading-glasses in one instance where they were not absolutely needed. The data were these: P.P. with distance correction in each eye 22 c.m. Age of patient forty, therefore amplitude of accommodation 4.5, half of which I considered available for constant use—*viz.*, 2.25D. To read at 33 cm. he would have to use 30 for accommodation, therefore there would be 0.75D deficiency, which was the strength of lens I added for reading. I was next examined on prescriptions and lenses. First I was given three lenses, and required to state what they were. They were (1) convex prismosphere, (2) concave cylinder, (3) a plain convex. Then I was handed about a dozen lenses and a pebble-tester, and asked to pick out the pebbles. Next I was shown a very badly-written prescription, and under the prescription for one of the eyes was "1° prism base in." I told the examiner I should divide this between the two eyes. Then to frame-valuing, which should present little difficulty to one conversant with an optician's business. I was shown an English steel curl side-frame, which I recognised by the English joints and file markings around the joints indicating a certain amount of finish, and next a gold-filled astig. Then I was set to measure up a straight-side frame for a duplicate, also an astig. I was also shown several lenses again, including a toric, and a prescription in which the axes of the cylinders had been omitted, a fact I failed to note at the time.

In the evening a paper on sight-testing was given, which concluded the final examination.

THE BRITISH OPTICAL ASSOCIATION (Incorporated 1895).—Secretary, Mr. J. H. Sutcliffe, F.R.S.L., 199 Piccadilly, London, W. The Association's scheme consists of two grades of examination, Membership (dioptric grade) and Fellowship, and these are held twice yearly in London (May and November), or in the provincial centres when a sufficient number of candidates desire it.

Candidates for the dioptric grade are required to produce a Preliminary certificate from an approved examining body. (The list of approved examining bodies is similar to that of the Pharmaceutical Society of Great Britain.) The examination is practical and theoretical, and the theoretical part can be taken separately and in advance of the practical work, although no certificate is given until the practical examination is passed. The subjects in which the candidate is examined are lenses, frames, subjective sight-testing, dissection, physical optics, physiological optics, anatomy and physiology of the eye, photometry, and ethics.

For the Fellowship examination candidates must hold the dioptric certificate, and are examined in similar subjects as before, but a deeper knowledge is required, and prismetry, ophthalmoscopy, embryology, and microscopical demonstrations are included.

The examination-fees are: Dioptric Grade, 3*l.* 3*s.*; Fellowship, 5*l.* 5*s.* Qualified chemists of Great Britain and

Ireland are exempt from portions of the Dioptric Grade examination.

### Optical Instruction.

THE BRITISH OPTICAL INSTITUTE, Mount Edgcombe Gardens, 345 Clapham Road, London, S.W., conducted by Dr. Max Coque, B.Sc., and a well qualified staff of assistants, prepares students for the Dioptric and Fellowship examinations of the British Optical Association and the Spectacle Makers' Company, by means of day and evening classes. A special feature is made of correspondence courses for those unable to attend the Institute. Vacation classes, in the principles and practice of sight-testing, are held in London during the month of August, and arrangements are made for similar classes in the autumn and spring in the north of England for the benefit of those who cannot come to London. The Institute claims a high percentage of passes. The Institute is well equipped for practical work, and has in connection with it a sight-testing clinic.

MR. A. E. GREY, 13 and 14 Spencer Street, Clerkenwell, London, E.C., receives pupils for personal instruction in the practical work and sight-testing part of the Spectacle Makers' Company's and British Optical Association's syllabus. Mr. Grey conducts an optical column in "The Jeweller and Silversmith."

MR. J. C. KIDD, 551 Cheetham Hill, Manchester, specialises in optical instruction for the examinations of either of the examining bodies. Mr. Kidd issues a syllabus of the courses of instruction which he conducts.

MR. LIONEL LAURANCE, Orthos House, 21 John Street, Bedford Row, London, W.C., conducts, in association with Mr. H. Oscar Wood, courses of instruction in preparation for the examinations of the Spectacle Makers' Company. The tuition is both in class and by correspondence. The fees for the Preliminary examination are 5*l.* 5*s.*, and for the Final examination in sight-testing 5*l.* 5*s.* Mr. Laurance is Official Instructor to the Spectacle Makers' Company, and is the author of excellent text-books for the Company's examination—"General and Practical Optics," and "Visual Optics and Sight-testing." A special reduction in fees is made to members of the Society of Chemist-Opticians.

LONDON SCHOOL OF OPTICS, 47 Hatton Garden, London, E.C.—This school, carried on in connection with the Anglo-American Optical Co., provides instruction in general refraction and sight-testing, both in class and by correspondence. The company also publishes Druiff's "Refraction" (10*s.* 6*d.*), a text-book largely used.

THE NORTHAMPTON POLYTECHNIC INSTITUTE, Clerkenwell, London, E.C.—The courses in optics are held in the British Horological Institute in Northampton Square. The full course of technical optics occupies two years, and consists of lectures, laboratory work, drawing-office work, tutorial classes, and workshop practice. A diploma in technical optics is awarded on the completion of a two-years' course with satisfactory records in examination and class-work. Evening students also receive certificates of attendance and satisfactory progress. The winter term begins late in September. The fees are 15*l.* per session (until July). Partial courses (two afternoons a week) may also be taken, for which the fee is 3*l.* per session, and there are afternoon classes suitable for chemists in business who cannot leave during the day. The whole field of optics is covered both theoretically and practically, and students can specialise either in opticians' work or in optical instrument making. The prospectus of the optical department can be had by applying to Dr. R. Mullineux Walmsley, the Principal.

GLASGOW COLLEGE OF OPTICS, Blythswood Chambers, 180 West Regent Street, is conducted by Mr. T. S. Baird, Mr. M. M. Irvine, and Mr. Lothian. Students are prepared for the examinations of the British Optical Association and the Spectacle Makers' Company.

MR. J. G. WALLBRIDGE, School of Optics, 227 Kensington, Liverpool, conducts optical classes, chiefly through the post, but he also makes a point of his willingness to attend at chemists' places of business.

DIOPTRIC ASSOCIATION, 25 and 26 Hart Street, Holborn, London, W.C. Optical coaching is given by correspondence or personally.



## Medicine and Surgery.

By Statute the General Council of Medical Education and Registration of the United Kingdom is charged with the regulation of the qualifications of those persons, men or women, who desire to practise as physicians or surgeons, or both, in the Kingdom. The regulations are briefly :

(1) Persons who desire to begin medical education must be sixteen years of age, and must produce evidence of having passed a Preliminary examination in general education (see index folio 294).

(2) On entering a school of medicine approved by the Council they must obtain from the head of the school a certificate of having commenced their medical studies, present this to one of the Registrars of the Council, pay a fee of 5s., and be registered as Medical Students.

(3) The complete medical curriculum, extending over four years and nine months (at least), must be gone through in an approved school or schools of medicine, with practice in hospitals or infirmaries attached thereto, and all the subjects prescribed by the Council should be studied and the Professional examinations passed.

(4) Finally they must be registered by the Council as Medical Practitioners.

Application for admission to the Students' Register must be made to one of the three Registrars for the United Kingdom. The new regulations as regards the medical Preliminary come into force on January 1, 1914, and the students' attention is especially directed to these (see index folio 294).

### THE ADDRESSES OF THE REGISTRARS

are as follows :

Mr. Norman C. King, Registrar of the General Medical Council, 299 Oxford Street, London, W.

Mr. James Robertson, Registrar of the Branch Council for Scotland, 54 George Square, Edinburgh.

Mr. Richard J. E. Roe, Registrar of the Branch Council for Ireland, 35 Dawson Street, Dublin.

The various examining bodies which grant medical diplomas or degrees in medicine all adhere more or less to the

### CURRICULUM OF STUDY

laid down by the General Medical Council. The General Medical Council revised its regulations in June. The requirements are now *bona fide* study during not less than five years (but the close of the fifth year may be reckoned as occurring fifty-seven months from the date of registration), and also that "in every course of professional study and examinations the following subjects should be contained" :

(i) Physics, including the elementary mechanics of solids and fluids, and the rudiments of heat, light, and electricity ; (ii) chemistry, including the principles of the science, and the details which bear on the study of medicine ; (iii) elementary biology ; (iv) anatomy ; (v) physiology ; (vi) materia medica and pharmacy ; (vii) pathology ; (viii) pharmacology and therapeutics ; (ix) medicine, including medical anatomy and clinical medicine ; (x) surgery, including surgical anatomy and clinical surgery ; (xi) midwifery, including diseases peculiar to women and to new-born children ; (xii) theory and practice of vaccination ; (xiii) forensic medicine ; (xiv) hygiene ; (xv) mental disease ; (xvi) *anæsthetics*.

Formerly the word "shall" was used instead of "should," so that now the regulations are more elastic. The two subjects indicated by italics have also been added since last year. The resolutions state that the course of study should be arranged so that the final group of subjects (vii to xvi) shall extend over twenty-four months to passing in anatomy and physiology. There is a new regulation this year which allows that :

Six months' instruction in the preliminary sciences at a teaching institution (other than a medical school) recognised by one of the licensing bodies and approved by the Council may count as six months, and no more, of the curriculum of professional study, provided such instruction is subsequent to the passing of the required Preliminary examination in General Education.

This is also due to the Conjoint Board's practice of allowing instruction taken at certain approved schools in chemistry, physics, biology, and practical pharmacy to count as part of the Professional curriculum. The first

four of the five years should be passed at one or more recognised schools of medicine, allowing the fifth year to be devoted to clinical work. The first year of study may be passed at a University or approved teaching (formerly "scientific") institution where physics, biology, and chemistry are taught, while graduates in Arts or Science at recognised Universities who included these subjects in their degree examinations are held to have completed the first year of their medical study. Specific conditions are laid down as to midwifery practice, and it is also stated that "no qualification in medicine ought to be granted without evidence of clinical instruction in infectious diseases."

The following experience of a chemist's son, who studied in a provincial University and took his medical and surgical degrees, outlines the medical curriculum, beginning with a winter session :

The *first winter's* work consists of lectures on elementary anatomy, chemistry, physics, and biology, practical anatomy being studied in the dissecting-room and practical biology in the laboratory. Among the appliances necessary are a reliable microscope, a dissecting-case, and a half-set of bones with a disarticulated skull for the home study of anatomy. At the end of the first winter the first half of the first Professional examination can be taken, consisting of anatomy and biology, both theoretical and practical.

The *first summer* is given up to the study of practical chemistry and physics, and at its completion the second half of the first Professional examination can be taken, consisting of theoretical and practical chemistry and physics.

In the *second winter* lectures on advanced anatomy and physiology and practical work in each subject are taken out.

In the *second summer* practical histology is the only subject, and at the end of this session the second Professional examination, consisting of anatomy and physiology, must be passed before the student proceeds with his hospital work the next winter.

*Third Winter*.—At this point the student commences hospital practice. In his first hospital year he holds the following appointments : Three months out-patient dressing, three months assistant and clerk to the pathologist, six months in-patient surgical dressing or medical clerking. The lectures this winter are public health, pathology, bacteriology, with practical work in the last two, for which is required an oil-immersion lens to fit on to the microscope.

*Third Summer*.—The lectures this summer are materia medica and medical jurisprudence ; practical pharmacy is studied at the infirmary. At the end of this session the third Professional examination is taken ; the subjects are pathology, bacteriology, medical jurisprudence, and public health.

*Fourth Winter*.—The hospital appointments held this next year are six months' in-patient medical clerking or surgical dressing, three months' out-patient clerking, one month assistant to the anaesthetist. These are all the appointments that the student is compelled to take out : the following are optional, but it is advisable for the experience gained to take them all out : One month assistant in the skin department, one month assistant in the gynaecological department, three months assistant in the ophthalmic department, three months assistant in the throat and ear department.

The lectures at the College are on medicine, surgery, midwifery, regional anatomy, all of which are more easily studied if the practical work at the hospital is systematically attended.

*Fourth Summer*.—In addition to hospital practice the student attends lectures on therapeutics and ophthalmology. About this time the practical midwifery course ought to be taken out at a lying-in hospital, where at least 120 cases must be attended and conducted personally. This takes on an average one month's residence at the hospital. A course in vaccination should also be attended about this time.

*Fifth Winter*.—Lectures in medicine and surgery at the College. At the hospital ward demonstrations in medicine and surgery and medical and surgical clinical lectures must be attended. The course of hospital practice in infectious diseases is attended this winter.

*Fifth Summer*.—Lectures in psychological medicine, with attendance at a lunatic asylum for practical study ; operative surgery, consisting of operations performed in the dissecting-room. This with hospital practice completes the curriculum, and the student is now ready to take his Final examination. This consists of medicine, surgery, and



midwifery papers, clinical examination in medicine, surgery, and gynaecology, surgical operations and instruments, splints and bandages. As regards fees at the college and hospital, these will be seen under the advertisements of the various Universities in this number. It will be found that many of them can be paid in instalments during the five years. A sum of about 20*l.* will cover the cost of books during the whole course, but this may be somewhat reduced by buying second-hand some of the less important works necessary in the first year. The microscope mentioned above will cost about 9*l.* for a modern reliable instrument, *plus* 5*l.* for the oil-immersion lens; 10*l.* will cover the cost of bones, midwifery bag, and other small necessary appliances. Examination-fees and fees necessary for convocation and registration about 50*l.* The cost of living depends upon the nearness or otherwise of the student's home to the university town.

The above is a somewhat tabulated account of lectures, etc.; in addition to these the student will find many other minor classes to attend. There are many who coach privately for the examinations, and this, although adding to the expense, not only gives a man additional aid to passing the examinations, but also gives him the benefit of other people's experience, which will be useful in later life.

The life of a medical student is a strenuous one, and at no period in the five years can he spare much time from his books. But diligent study and regular attendance at hospital will reap their reward, and he will be amply repaid.

There are over twenty medical diplomas or degrees to choose from, and students must make up their minds concerning what qualification or qualifications they intend to take before starting their curriculum. Although the examining bodies modify the General Medical Council's course of study as it may please them, none of the old subjects were excluded from the curriculum, and their conditions approximate the same standard. The rules of the Universities allow less latitude in fulfilling the curriculum.

### Medical Diplomas.

#### ENGLISH DOUBLE QUALIFICATION.

The joint diploma, or "Double Qual.," granted by the Conjoint Examining Board appointed by the Royal College of Physicians of London and the Royal College of Surgeons of England, enables the holder to be registered as L.R.C.P. and M.R.C.S. Candidates have to undergo three Professional examinations during the five years' curriculum subsequent to registration as medical students. The first is in chemistry, physics, biology, and practical pharmacy, and it may be taken immediately after passing the Preliminary examination. Candidates must produce evidence of having received instruction in all these subjects, unless they propose to postpone practical pharmacy until a later examination. The course in the first three must be studied at a medical school or other institution recognised by the Board, but it may be commenced or attended before the candidate passes his Preliminary examination. If the instruction in these subjects is taken at a recognised institution other than a medical school, it will be counted as part of the Professional curriculum if it is taken subsequent to passing the Preliminary. The subjects may be taken in three parts, but chemistry and physics must be taken together. The fee for the whole examination is 10*l.* 10*s.* The second Professional examination is in anatomy and physiology, and both the subjects must be passed at one time. Evidence must be produced that the candidate has spent twelve months in dissecting the whole of the human body and attended courses of lectures in anatomy, physiology, and practical instruction in physiology and histology. Before admission to the third or Final examination, the candidate must produce evidence that he has attended the specified portion of study laid down in the curriculum as laid down in the official regulations. These, along with the synopses of the examination, can be obtained from Mr. Frederick G. Hallett, Secretary of the Conjoint Board, 8-11 Queen Square, Bloomsbury, London, W.C. In this connection new conditions regarding pathology are required for candidates who passed the second examination on or after January 1, 1912. The examination itself is in three parts, as follows:

Part I.: Medicine, including medical anatomy, pathology, practical pharmacy (if not taken before), therapeutics, forensic medicine, and public health. Part II.: Surgery, including pathology, surgical anatomy, and the use of surgical appliances. Part III.: Midwifery and diseases peculiar to women.

At least two years must expire after passing the second examination, and the Final cannot be completed before the expiration of five winter and five summer sessions from the date of passing the Preliminary examination. The fee

for the Final examination is 21*l.* Re-examination fees for all the various stages are smaller. Each of the Colleges grants its diploma separately, and this convenience is frequently taken advantage of by University candidates who wish to specialise in either medicine or surgery.

#### THE SCOTTISH TRIPLE QUALIFICATION.

The three diplomas, also known as the "Triple Qual.," of the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Royal Faculty of Physicians and Surgeons, Glasgow, can be obtained after one series of examinations held either in Edinburgh or Glasgow, or both. These diplomas are granted singly by the three co-operating bodies, but these single diplomas confer no right to registration, except as a qualification additional to those already on the register. The curriculum covers five years, and professional studies before registration as medical students are not recognised. There are four Professional examinations, the first (fee 5*l.*) in physics, chemistry, and elementary biology, may be taken after these subjects have been studied during one winter and one summer session. The second (fee 5*l.*) is in anatomy and physiology, including histology, and is to be taken at the end of the second year of medical study. The third examination at the end of the third year (fee 5*l.*) is in physiology and materia medica and pharmacy. The Final examination (fee 15*l.*) is in (1) medicine, including therapeutics, medical anatomy, and clinical medicine; (2) surgery, including surgical anatomy, clinical surgery, and diseases and injuries of the eye; (3) midwifery and diseases of women and of new-born children; and (4) medical jurisprudence and public health. Medical jurisprudence and public health may be taken at any time after passing the third examination. Medicine, surgery, and midwifery must be taken together, and not earlier than on the conclusion of five winters and five summers of medical study, provided that a period of twenty-four months has elapsed since passing the second Professional examination. The letters used to designate this diploma are L.R.C.P.E., L.R.C.S.E., L.R.F.P.S.G. Full particulars may be obtained from Mr. James Robertson, solicitor, 54 George Square, Edinburgh, or Mr. Alexander Duncan, B.A., LL.D., 242 St. Vincent Street, Glasgow.

#### IRISH DOUBLE QUALIFICATION.

The Conjoint Board in Ireland of the Royal College of Physicians in Ireland and the Royal College of Surgeons grant a registrable diploma after examinations in Dublin. The Professional examinations number four. The first (fee 15*l.* 15*s.*) is in chemistry, physics, and biology, and may not be taken earlier than the end of the first winter session. The first two subjects may be taken separately. The second examination (fee 10*l.* 10*s.*) is in anatomy and physiology and histology, and may be taken at the end of the second winter session, either in one or two parts. The third Professional examination (fee 9*l.* 9*s.*), at the end of the third year, is in (a) pathology, (b) materia medica, pharmacy, and therapeutics, and (c) forensic medicine and public health. This may be taken in three divisions. The Final examination (fee 6*l.* 6*s.*) is in (a) medicine, including fevers, mental diseases, and diseases of children; (b) surgery, including operative surgery and ophthalmic surgery; (c) midwifery and gynaecology, vaccination, and diseases of new-born children. None of these divisions can be entered for before the end of the fourth year of the curriculum, and the examination cannot be completed before the end of the fifth year. The constituent Colleges also grant separate diplomas of L.R.C.P.I. and L.R.C.S.I. Full particulars can be obtained from Mr. Alfred Miller, Royal College of Surgeons, Stephen's Green, Dublin.

#### LONDON APOTHECARIES' DIPLOMA.

The Society of Apothecaries of London grants a diploma in medicine, surgery, and midwifery after fulfilling the required courses of study and passing its Primary and Final examinations. Part I. of the Primary comprises elementary biology, chemistry, and materia medica and pharmacy; and Part II. consists of anatomy, physiology, and histology. Candidates may enter for Part II. before passing Part I., provided the course of study has been completed. The Final examination is in two sections. Section I. is in three parts: (1) A written examination in the principles and practice of surgery, etc. (which may be taken by itself); (2) the principles and practice of medicine and pathology and morbid histology (which may be taken at one examination); and forensic medicine (which may be taken at another); (3) includes midwifery, gynaecology, and the diseases of new-born children. This first section may be taken at any time after forty-five months of medical studies. Section II. cannot be passed before the end of the fifth year. It consists of: Part I., clinical surgery; and Part II., clinical medicine and medical anatomy, which may be taken together or separately. The fees are: Primary, 5*l.* 5*s.*;



Final section, 10*l.* 10*s.*; Section 2, 5*l.* 5*s.* Full particulars will be found in the official regulations and synopses, to be obtained from Mr. Frank Haydon, L.R.C.P., Society of Apothecaries, Water Lane, Blackfriars, London, E.C.

#### DUBLIN APOTHECARIES' DIPLOMA.

The Apothecaries' Hall of Ireland grants its licence to students who have complied with its conditions in regard to curriculum and passed its three Professional examinations, the total fees for these being 3*l.* 10*s.* Full particulars are contained in the syllabus obtainable from the Registrar, Apothecaries' Hall, 40 Mary Street, Dublin.

#### Medical Degrees

are more highly valued than diplomas because they carry with them the hall-mark of a university as well as qualification to practise. A pass in the Matriculation examination (or an accepted equivalent) of a university, whose degree is required, is the first step towards a medical degree. The subjects taken for this generally include those detailed in the General Medical Council's regulations for registration, but it is, curiously enough, possible to proceed to the London degree in medicine without having taken Latin.

#### ENGLAND.

The external degree in medicine of the University of London allows the most liberal provision as to institutions where the prescribed course of study may be taken. The University of Durham requires only one year of professional study to be taken at the College of Medicine, Newcastle-on-Tyne; while at Leeds, Liverpool, Manchester, and Sheffield Universities two of the five years' curriculum must be spent in the University granting the degree. The Universities of Bristol and Cambridge require three years' residence, and at the University of Birmingham three or four years of the prescribed period must be spent at the University. The Oxford degree in medicine usually implies seven years' residence.

#### Birmingham.

The degrees granted are M.B., Ch.B., M.D., Ch.M., and also a B.Sc. in the subject of public health and a diploma (D.P.H.) in public health. Of the five years' curriculum three or four (according to circumstances) must be passed at the University. There are five Professional examinations, the fee for the first four being 2*l.* each, and for the Final 3*l.* Candidates may enter the Professional examination in chemistry and physics before commencing residence in the University, but after registering as medical students. Full particulars can be obtained from the Secretary, Mr. Geo. H. Morley.

#### Bristol.

Four degrees in medicine (M.B. and M.D., Ch.B. and Ch.M.) are granted as well as a diploma in public health. There are three Professional examinations for the M.B. and Ch.B. degrees, while three of the five and a half years' course of study must be taken in the University. Full particulars can be obtained from The Registrar.

#### Cambridge.

The degrees conferred are M.B., B.C., M.D., and M.C. These are valued by many London students, the conditions favouring the curriculum being taken in London and Cambridge. Those who have not taken the B.A. degree must pass the previous examination or other examination accepted by the University, and conform to the General Medical Council's professional curriculum at Cambridge and/or elsewhere. Residence at the University for nine terms (three years) at least is required. There are three Professional examinations leading up to the degrees of B.C., M.B. An Act has also to be kept in the Public Schools, the candidate reading an original dissertation composed by himself on some subject approved by the Regius Professor of Physic.

#### Durham.

Six degrees in medicine and a diploma in public health are granted. The Professional examinations (fees 25*l.*) are four in number. At least one of the five years of professional education must be spent at the College of Medicine, Newcastle-on-Tyne. It is possible by this provision to study in London or other place. For information in respect to the medical studies address The Secretary, The College of Medicine, Newcastle-on-Tyne.

#### Leeds.

The degrees in medicine number four—viz., M.B. and Ch.B., M.D. and Ch.M. A diploma in public health is also granted. There are three Professional examinations, each

of which is taken in parts, the fees amounting to 15*l.* Five years' curriculum is necessary, and of these two years must be spent in the University. Communications concerning classes, etc., should be addressed to The Dean of the Medical Faculty, and those relating to the examinations, degrees, etc., should be addressed to The Registrar.

#### Liverpool.

The arrangements for the degrees of M.B. and Ch.B. are very similar to those at Leeds University (*q.v.*). The degrees of M.D., Ch.M., and M.H. (Master of Hygiene) are also granted, as well as a diploma of tropical medicine (D.T.M.). Address, Mr. K. W. Monsarrat, Dean of the Faculty of Medicine.

#### London.

This University confers the degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (B.S.) and Doctor of Medicine (M.D.) and Master of Surgery (M.S.). Students must have passed the Matriculation examination and studied the curriculum subjects during prescribed periods amounting to five and a half years at approved schools. There are two classes of medical students, internal and external; the former pursue a course of study approved by the University, either (a) under the direct control of the University or a committee appointed thereby, or in any one or more schools of the University; or (b) under one or more of the appointed or recognised teachers of the University. Undergraduates residing in London should take advantage of being registered as internal students, as the records of the work done during the curriculum count to some extent when examination results are being considered. External students are allowed liberal provision as to places of study. The three Professional examinations for both classes are the same:

First, in inorganic chemistry, physics, and general biology (to be passed not less than nine months after matriculation).

Second, Part I., organic and applied chemistry (to be passed not less than six months after the First). Part II., anatomy, physiology, and pharmacology, including pharmacy and materia medica (to be passed after passing Part I. and not less than eighteen months after the First).

Third, in medicine (including therapeutics and mental diseases), surgery, midwifery, and diseases of women, pathology, forensic medicine, and hygiene (to be passed after the Second and not less than three years after passing in anatomy and physiology, Part II.).

The fees for the Professional examinations amount to 25*l.* Those who graduate may proceed two years later to the degree of Doctor of Medicine in one of the six branches of medicine, or to the degree of Master of Surgery in surgery or dental surgery.

#### Manchester.

The arrangements at the University of Manchester in regard to the degrees of M.B. and Ch.B. are the same as at Leeds (*q.v.*). Two years of the curriculum must be passed at the University, and the Professional examinations taken there. Degrees of M.D. and Ch.M. are also granted. Address, Professor W. Stirling, Dean of the Faculty.

#### Oxford.

There are two degrees in medicine (B.M. and D.M.), two in surgery (B.Ch. and M.Ch.), and two diplomas in public health and ophthalmology. Graduates in Arts are alone eligible for the degrees, the most convenient course for medical students being to take Responsions, the Preliminary Science examinations, and the Final Honour School of Physiology. The curricula implies residence in Oxford for seven years. Full particulars from Sir William Osler, Regius Professor of Medicine, University Museum, Oxford.

#### Sheffield.

There are four degrees, two (M.B., M.D.) for medicine and two (Ch.B. and Ch.M.) for surgery. The conditions are practically the same as at Leeds (*q.v.*), at least two of the five years of the Professional curriculum being taken in the University of Sheffield. The three Professional examinations are each divisible into two parts. Address, in respect to examinations, Mr. W. H. Gibbons, M.A., the Registrar; and, on other matters, Professor J. M. Beattie, M.D., Dean of the Faculty of Medicine, The University, Sheffield.

#### WALES.

The University of Wales now grants degrees in medicine (M.B., Ch.B.) and a diploma in public health. The scheme of study is in two parts, each extending over three years, and of the entire scheme at least three years must be pursued in one of the constituent colleges at Aberystwyth, Bangor, and Cardiff, where there are Professors of chemistry, botany, zoology, and physics. The curriculum allows preparation for taking medical diplomas at the same time. Full particulars can be obtained from The Registrar, University Registry, Cathay's Park, Cardiff, or to the constituent Colleges.

## SCOTLAND.

The Scots Universities all grant the degree of Bachelor of Medicine and Bachelor of Surgery on the same conditions. The Carnegie Fund is available for those who propose to study medicine in Scotland. (See index folio 313.) Of the five years' curriculum for the degree not less than two years (or six terms of medical study) must be spent in attendance at the chosen University. Thus a student going forward to the degree of the Edinburgh University must attend the courses of instruction there in the subjects of the medical curriculum and the other three years' compulsory study may be spent in any other approved medical school in the United Kingdom, but the Edinburgh University Professional examinations must be passed.

**Aberdeen.**

The degrees granted by the University are M.B., Ch.B., M.D., and Ch.M. There is also a diploma in public health. At least two of the five years' curriculum, and at least eight of sixteen specified subjects for M.B., B.Ch., must be spent or taken in the Aberdeen University or some other University or College recognised by the University Court. The Professional examination for the degrees of Bachelor of Medicine and Bachelor of Surgery includes: *First*, botany and zoology (or biology), physics, and chemistry; *second*, anatomy and physiology; *third*, materia medica, pharmacology and therapeutics, pathology (including bacteriology), forensic medicine and public health; *fourth*, surgery and clinical surgery, practice of medicine and clinical medicine, and midwifery and the diseases peculiar to women and infants. The total fees for the degree is 23*l.* 2*s.* For further particulars address, Mr. D. R. Thom, M.A., Secretary, University of Aberdeen.

**Edinburgh.**

Four degrees in medicine and surgery are conferred as at Aberdeen University, the conditions of entry, Professional examinations, and total fees being the same. Communications should be addressed to Professor Harvey Littlejohn, M.A., M.B., B.Sc., Dean of the Medical Faculty. Inquiries regarding the Preliminary examination should be addressed to Mr. James Dowie, The University, Edinburgh.

**Glasgow.**

The degrees conferred on medicine and surgery number four, as at Aberdeen (*q.v.*), the conditions for the M.B. Ch.B. qualification being the same. In respect of professional studies, address Professor Muir, M.A., M.D., F.R.S., Dean of the Faculty of Medicine, Mr. W. Innes Anderson, Matriculation Office, Glasgow University, supplies information regarding the Preliminary examination, but women students should apply to the Secretary, Queen Margaret College, Glasgow.

**St. Andrews.**

Four degrees are granted, as at Edinburgh. Medical students may take the whole of their curriculum at the University College, Dundee, or the first two years in the United College. For full particulars address Professor Kynoch, University College Medical Faculty, Dundee.

## IRELAND.

The National University of Ireland confers degrees in medicine upon persons who have pursued its prescribed course of study, including at least nine terms at one or more of its constituent colleges. The Queen's University of Belfast also requires its matriculated students to take three of the five years' course of study in the University before granting its medical degrees. The University of Dublin (Trinity College) examines candidates for its medical degrees who are of B.A. standing and have studied at its Medical School for five years.

**Belfast.**

There are six degrees of medicine in the Faculty of Medicine of Queen's University of Belfast. Students for the Final examination must matriculate and take at least three of the five years' course of study prescribed at the University, and pass four medical examinations.

**Dublin.**

The degrees granted by the National University of Ireland are M.B., B.Ch., B.A.O., and the corresponding masterships, also a bachelorate and doctorship in public health. There are four Professional examinations for the M.B., B.Ch., and B.A.O. degrees, the full five years' curricula for which are obtainable at the University College, Dublin, where Professor E. P. McLoughlin, B.A., M.B., B.Ch., is Dean of the Medical Faculty. The M.B., B.Ch., and B.A.O. degrees of the University of Dublin (Trinity College) require five years' residence after becoming a Bachelor in Arts. Three examinations have to be passed.

**Cork.**

The University College, Cork, which is a constituent of the National University of Ireland, provides full degree courses in its Faculty of Medicine (see above). Dean, Professor A. E. Moore, M.B., B.Ch., B.A.O.

**Galway.**

The University College is a constituent of the National University of Ireland, and complete courses for degrees are obtainable in the Faculty of Medicine. Dean, Professor J. P. Pye, M.D., M.Ch., M.Sc.

**Medical Instruction.**

A brief outline is given below of the medical tuition available at various universities and medical schools whose courses are recognised by the General Medical Council. The teaching institutions at which medical study may be commenced in the United Kingdom and abroad are also indicated. It is interesting to note that the Council decided in June to make no further additions to these until further experience has been obtained of the effect of the new regulations regarding general education.

**ABERDEEN.**—*The University Faculty of Medicine* affords complete instruction, clinical practice being obtained in the Royal Infirmary [230 beds] and other special institutions; fee (including class, hospital, and all examination fees for five years' curriculum, and fees for degrees), about 150*l.* Dean, Professor J. T. Cash, M.D., LL.D. The Secretary, Mr. Donaldson R. Thom, M.A., Marischal College, will supply the prospectus.

**ABERYSTWYTH.**—*University College of Wales*, a constituent of the University of Wales. Registrar, Mr. J. H. Davies.

**BANBURY.**—*Municipal School*, for Preliminary Scientific subjects.

**BANGOR.**—*University College of North Wales*, constituent college of the University of Wales. Recognised courses are provided for the first year of the medical curriculum.

**BELFAST.**—*Queen's University of Belfast.*—Professor Symmers is Dean of the Faculty of Medicine, in which the fees (including clinical instruction) amount to about 100*l.* Mr. J. M. Finnegan, the Secretary, will supply an informative pamphlet.

**BIRMINGHAM.**—*University Faculty of Medicine.*—The curriculum specially arranged for the degrees of the University enables students to qualify also for the other medical degrees and diplomas. Clinical instruction is obtained at the General and Queen's Hospitals [together over 500 beds]. The composition-fees for the M.B. and Ch.B. degrees amount to 157*l.* 1*s.* 6*d.* Dean, Professor Peter Thompson, M.D., Ch.B.

*Municipal Technical School*, for Preliminary subjects.

**BRADFORD.**—*Technical College.*—Instruction is provided in Preliminary Scientific subjects for the Conjoint Board's examination.

**BRIGHTON.**—*Technical Day College*, for Preliminary Scientific subjects. Fee, 2*l.* 12*s.* 6*d.* to 5*l.* 5*s.* per term.

**BRISTOL.**—*The University Faculty of Medicine.*—The complete curricula are provided for the medical and surgical degrees of the University of London, the Conjoint Board, and the Society of Apothecaries, with clinical practice at the Royal Infirmary and General Hospital [together 650 beds]. Composition-fee (including hospital practice), 147*l.* Professor E. Fawcett, M.D., is the Dean.

*The Merchant Venturers' Technical College* is recognised for Preliminary Scientific subjects.

**CAMBRIDGE.**—*University Medical School.*—Full particulars as to regulations and courses of study can be obtained from the Registry of the University, Cambridge. Clinical practice is provided at Addenbrooke's Hospital [172 beds]. Inclusive expenses for an economical student, about 100*l.* per academical year.

*Girton College, Newnham College.*—Are recognised for Preliminary Scientific subjects.

**CAPE TOWN.**—*The South African College* is recognised for Preliminary Scientific subjects.

**CARDIFF.**—*University College of South Wales and Monmouthshire*, a constituent college of the University of Wales. The first three years of the medical curriculum can be taken in the Faculty of Medicine, of which Professor D. Hepburn, M.D., C.M., F.R.S., is the Dean. Fees for the Preliminary Scientific and the Intermediate examination of the University of London, 57*l.* 10*s.*; for the Conjoint Board (First and Second examinations), 41*l.* 10*s.* Hospital practice is obtained at Cardiff Infirmary. Registrar, Mr. Percy E. Watkins.

**CHELTENHAM.**—*Ladies' University College*, for Preliminary Scientific subjects.

**CORK.**—*University College*, a constituent college of the National University of Ireland. In the Faculty of Medicine the cost of degrees of the National University of Ireland or



University of London is about 125l., and of the Irish Conjoint Diploma 142l. Clinical practice is obtained at North and South Infirmaries [100 beds each], District Hospital [1,200 beds], and other local hospitals. Dean, Professor A. E. Moore, M.B., B.Ch.

CROYDON.—*Whitgift Grammar School*, for Preliminary Scientific subjects.

DARLINGTON.—*The Technical College* is recognised for Preliminary Scientific subjects.

DERBY.—*Technical College*.—Preliminary Scientific subjects can be taken here.

DUBLIN.—*Trinity College* (School of Physic).—Students must matriculate before entering the School of Physic or attend dissections. The course fees amount to 149l. 17s. Address, The Registrar of the School of Physic, Dublin.

*Royal College of Surgeons' Schools of Surgery* (which includes the Carmichael and Ledwich Schools).—The Schools of Surgery are attached by charter to the Royal College of Surgeons, being under the supervision and control of the Council. Total expense of triple qualification (including examination-fees), 160l. 13s. A students' guide is supplied on application to The Registrar, Mr. Alfred Miller.

*Royal College of Science for Ireland* is recognised for Preliminary Scientific subjects.

*University College*, constituent of the National University of Ireland. The fees for four years' degree courses of medical study at the College amount to 68l. 5s. Clinical instruction at the General Hospital and other special hospitals costs about 52l. 10s. Dean of the Medical Faculty, Professor E. P. McLoughlin.

DUNDEE.—*University College*.—The full medical curriculum for the degree of the University of St. Andrews can be taken at this College. Clinical instruction is given at the Dundee Royal Infirmary [400 beds].

EASTBOURNE.—*Eastbourne College*, for Preliminary Scientific subjects.

EPSOM.—*Epsom College*, for Preliminary subjects.

EDINBURGH.—*University Faculty of Medicine*.—The minimum fees for the complete curriculum (including hospital practice) amount to about 130l. for the M.B. and Ch.B. degrees. Examinations (including Matriculation) cost another 28l. 7s. Clinical experience is gained at the Royal Infirmary, etc. [total beds 2,160]. Apply for the syllabus to the Dean (Professor H. Littlejohn, M.A., B.Sc.) or the Clerk to the Senatus.

*School of Medicine of the Royal Colleges*.—The courses of instruction fulfil the requirements of the Edinburgh University and other Universities, also the Royal Colleges of Physicians and Surgeons of Edinburgh, London, and Dublin. There are special classes for women students. The minimum cost of the triple qualification, including examination-fees, is 115l. The Dean is Major D. G. Marshall, I.M.S., 11 Bristo Place, Edinburgh.

*School of Medicine for Women, Surgeons' Hall*.—The complete curriculum is provided. Dean, Dr. W. Russell.

EXETER.—*Royal Albert Memorial University College*, for classes in subjects of the first Professional Medical examinations.

FELSTED.—*Felsted School*, for Preliminary Scientific subjects.

GALWAY.—*University College*.—A constituent of the National University of Ireland. The fees in the Faculty of Medicine are the same as at Cork. Clinical teaching is given at the three Galway Hospitals. The Dean is Professor J. P. Pye, M.D.

GLASGOW.—*The University Faculty of Medicine and Queen Margaret College*, Hamilton Drive, Glasgow (School of Medicine for Women). The cost of the M.B. and Ch.B. degrees (including hospital attendance) is about 140l. Clinical instruction is given at the Western Infirmary [595 beds] and Glasgow Royal Infirmary [600 beds]. Dean of the Faculty, Professor Muir, M.A., M.D., F.R.S. The syllabus of the regulations, etc., may be obtained from Mr. W. Innes Addison, Registrar, The University. For information regarding the women's school address Miss Melville, Mistress of Queen Margaret College.

*St. Mungo's College*.—Medical School of Glasgow Royal Infirmary. The fee for English or Scottish Conjoint qualifications is about 70l. Clinical instruction is given at the Royal Infirmary [600 beds], which immediately adjoins the College. The Dean, Dr. T. K. Monro, will supply syllabus.

*Western Medical School*, 44 and 46 University Avenue, Hillhead.—Lectures and demonstrations are given in chemistry, anatomy, surgery, medicine, midwifery, and gynaecology, ophthalmology, and dermatology. Some of the classes qualify for graduation and for the diplomas of the Scottish Conjoint Board. The usual class fee is 2l. 2s. Secretary, Mr. J. N. Morton, M.A.

*Anderson's College Medical School*, Dumbarton Road.—The classes qualify for all the licensing bodies in the United Kingdom and the Universities (under certain conditions). Clinical instruction is given at the Western Infirmary imme-

diately adjoining the College, and also at the Royal Infirmary. Calendar containing full details of fees on application from Professor B. G. Cormack, Hon. Secretary, Medical Faculty.

GLOUCESTER.—*Municipal Technical School*, for Preliminary Scientific subjects.

GRIMSBY.—*Municipal College*, for Preliminary Scientific subjects.

HALIFAX.—*Municipal Technical College* (Day Classes), for Preliminary Medical studies.

HARROW.—*Harrow School*, for Preliminary Scientific subjects.

HUDDERSFIELD.—*Technical College* (Day Classes), for Preliminary Medical studies.

HULL.—*Municipal Technical College* (Day Classes), for Preliminary Medical studies.

JOHANNESBURG.—*The Transvaal University College* is recognised for Preliminary Medical studies.

LEEDS.—At the *University* the complete medical curriculum costs 195l. 6s. (this includes composition-fee for classes 73l. 2s. 6d., examination-fees, books, and microscope). Clinical work is provided at the Leeds General Infirmary [524 beds]. Professor A. S. Grünbaum, M.A., M.D., F.R.C.P., is Dean of the Medical Faculty.

LEICESTER.—*Municipal Technical School* (Day Classes), for Preliminary Medical course.

LIVERPOOL.—*The University Faculty of Medicine*.—The composition-fees for the degrees M.B. and Ch.B. amount to 84l. 15s. for University students, with examination-fees an extra 15l. The fee for clinical instruction at the Royal Infirmary and other local hospitals [together 1,127 beds] is 42l. Dean, Mr. K. W. Monsarratt, M.B., F.R.C.S.

LONDON.—At the following medical schools and colleges, which are constituents of the University of London, the whole or part of the instruction required for the medical degrees and diplomas can be obtained:

*Charing Cross Hospital Medical College*, Chandos Street, W.C. [200 beds].—The approximate cost of medical education is given as 199l. 5s. (including composition-fee 120l. 15s., examination-fees 42l., books, and instruments fee). Clinical instruction only costs 77l. 14s. Dean, Mr. F. C. Wallis, F.R.C.S.

*Guy's Hospital*, London Bridge, S.E. [620 beds].—Fees, about 160l. There is a residential college in connection with the medical school. Dean, Dr. H. L. Eason.

*King's College Hospital Medical School*, Lincoln's Inn, W.C.—Preliminary and intermediate portions are taken at King's College, but composition-fee can be arranged (147l. for University course or for Conjoint course). The course for the Final examination only costs 78l. 15s. Dean, Mr. H. Willoughby Lyle, M.D., F.R.C.S.

*King's College Faculty of Science* (Medical Division), Strand, W.C.—Fees for the University of London courses: First examination for medical degrees 26l. 5s., second examination 57l. 15s. The Conjoint Board course fees are: First examination 21l., second examination 57l. 15s. Dean, Professor W. D. Halliburton, M.D., F.R.S.

*London Hospital Medical College*, Turner Street, Mile End, E. [922 beds].—Fees, 31l. 10s. per annum with entrance fee of 21l. Its position renders it one of the largest accident hospitals in the world. Dean, Dr. W. Wright, F.R.C.S.

*London (Royal Free Hospital) School of Medicine for Women*, 8 Hunter Street, Brunswick Square, W.C.—Composition-fees for the degrees of University of London or the Conjoint Board qualification, 160l.; other courses cost 140l. Scholarships and bursaries are awarded annually. The school's prospectus gives details of fees for all courses for medical qualifications open to women. Clinical instruction at the Royal Free Hospital [165 beds]. Dean, Miss J. A. H. Cock, M.D.

*Middlesex Hospital*, Cleveland Street, W. [440 beds].—Composition-fees: for general students 141l. 15s., for University of London students 152l. 5s. Dean, H. Campbell Thomson, M.D., F.R.C.P.

*St. Bartholomew's Hospital and College*, West Smithfield, E.C. [744 beds].—Fees, by a single payment, 173l. 5s., or 47l. 5s. annually for four years. The complete medical curriculum (including Preliminary) can be taken here. The total value of scholarships and prizes awarded annually is about 1,000l., of which several are entrance scholarships. Dean, Dr. T. W. Shore, B.Sc.

*St. George's Hospital*, Hyde Park Corner, S.W. [440 beds], with a convalescent branch at Wimbledon.—This is now a purely clinical school, students carrying out their preliminary studies at either King's College or University College, University of London. The annual composition-fee is 31l. 10s., entrance-fee for other students 10l. 10s. There are several entrance scholarships at this hospital. Dean, Dr. E. I. Spriggs.

*St. Mary's Hospital*, Cambridge Place, Paddington, W. [301 beds].—Fees for full curriculum for Conjoint Board

140*l.*, or for University degrees 145*l.* (5*l.* more if paid in instalments). Entrance scholarship examinations will be held on September 23 to 25. The winter session commences on October 1, when the Lord Mayor of London will present the prizes and awards. Dean, Sir John Broadbent, Bart., M.D., F.R.C.P.

*St. Thomas's Hospital*, Albert Embankment, S.E. [620 beds].—Fees for Preliminary subjects, 15*l.* 15*s.* per annum; second-year students, entrance 21*l.*, annual fee for all classes 31*l.* 10*s.*; fourth-year students (after second M.B.), entrance 10*l.* 10*s.*; annual fee 31*l.* 10*s.* Dean, Dr. E. Stainer, M.A., M.D. Oxon. Secretary, Mr. G. Q. Roberts, M.A.

*University College, Faculty of Medical Sciences*, Gower Street, W.C.—This college is a University centre for Preliminary and Intermediate medical studies. Fees: University of London, First medical examination course 27*l.* 6*s.*, second examination course 60*l.* 18*s.* Composition-fees for the Conjoint Board and Society of Apothecaries' courses, 82*l.* 19*s.* for the first course. Clinical instruction is taken at a medical school and hospital (*see* University College Hospital Medical School). Secretary, Mr. Walter W. Seton.

*University College Hospital Medical School*, University Street, Gower Street, London, W.C. [305 beds].—Fees: Final M.B. course, or Conjoint Board, 84*l.* Clinical instruction, perpetual fee, 47*l.* 5*s.* Dean, Dr. G. F. Blacker, F.R.C.P., F.R.C.S. Secretary, Mr. L. R. Thomas.

*Westminster Hospital Medical School*, Broad Sanctuary and Caxton Street, S.W. [215 beds].—Fees: Annual composition-fee, 26*l.* 5*s.*; entrance-fee, 15*l.* 15*s.*, of which 10*l.* 10*s.* is returned upon qualification and fulfilment of conditions. Dean of the School, Dr. D. W. Carmalt Jones.

Recognised instruction in either or both Preliminary and Intermediate courses of medical study is also given at the *Bedford College*, York Place, Baker Street, London, W.; *Royal Holloway College*, Englefield Green, Surrey; *Imperial College of Science*, South Kensington, S.W.; *Birkbeck Institute*; *Dulwich College*; *East London Technical College*; *Central Technical College*; *Westfield College*; *Battersea Polytechnic* (Day Classes); *City of London College*; and *South-Western Polytechnic Institute*. There are also several special post-graduate colleges in London.

LONG EATON.—*Trent College*, for Preliminary Scientific subjects.

MALVERN.—*Malvern College*, for Preliminary Scientific subjects.

MANCHESTER.—*University Faculty of Medicine*.—Composition-fee for M.B. and Ch.B. degrees 73*l.* 10*s.*, and Conjoint Board examinations 87*l.* 3*s.* Clinical practice is obtained at the new Royal Infirmary and associated hospitals [in all 1,049 beds]. Composition-fee, 42*l.* Dean, Professor W. Stirling, M.D., D.Sc., LL.D.

The *Municipal School of Technology* is recognised for Preliminary Medical studies.

NEWCASTLE-ON-TYNE.—*University of Durham College of Medicine*.—Clinical instruction is given at the Royal Victoria Infirmary [400 beds]. Fees: 75*l.* 12*s.* (payable to the Secretary, Professor R. Howden) and hospital-fees 36*l.* 15*s.* (payable to Dr. W. E. Hume).

NORWICH.—*Technical Institute*, for Preliminary Medical studies.

NOTTINGHAM.—*University College*, for Preliminary Scientific studies.

OXFORD.—The *University*.—The instruction in natural science is carried on for the most part at the Museum. The clinical work is taken at a metropolitan or provincial medical school. Intending medical students should consult "The Examination Statutes" (Clarendon Press) or interview Sir W. Osler, Regius Professor of Medicine, University Museum.

PLYMOUTH.—*Municipal School of Science* (Advanced Day Classes), for Preliminary Scientific course.

PORTSMOUTH.—*Municipal College*, for Preliminary Scientific subjects.

PRESTON.—*Harris Institute*, for Preliminary Scientific course.

READING.—*The College*, for Preliminary Scientific course.

REPTON.—*Repton School*, for Preliminary Science subjects.

ROCHDALE.—*Municipal Technical School*, for Preliminary Scientific course.

SALFORD.—*Royal Technical Institute* is recognised for Preliminary Medical studies.

ST. ANDREWS.—*The University Faculty of Medicine*.—The full curriculum is provided at University College, Dundee, or the first two years may be taken at the United College, St. Andrews, and the remaining three years at the University College, Dundee. Fees for the complete course (exclusive of examination-fees), about 140*l.* The clinical practice is given at the Dundee Infirmary [400 beds]. Dean, Professor Kynoch.

SHEFFIELD.—*University Faculty of Medicine*.—Composi-

tion-fees: University course 80*l.*, and hospital practice (Royal Infirmary and Royal Hospital, over 500 beds) 42*l.* Dean, Professor J. M. Beattie, M.D.

SOUTHAMPTON.—*Hartley University College*, for Preliminary Scientific course. A special prospectus is issued for medical and dental students.

SWANSEA.—*Technical College* (Day Classes), for Preliminary Scientific course.

WALSALL.—*Municipal Institute*, for Preliminary Scientific course.

WEST HAM.—*Municipal Technical Institute*, for Preliminary Scientific subjects.

### Medical Services.

The following appointments are open to competition among candidates who are already qualified medical men. Extra instruction is afterwards required in such subjects as tropical diseases, military surgery and administration, and naval hygiene.

NAVY.—Registered medical practitioners who are British subjects and of pure European descent and not over twenty-eight years of age are eligible for commissions in the Medical Department of the Royal Navy. Applicants are examined in medicine and surgery, and on passing and receiving an appointment are paid at the rate of 255*l.* 10*s.* a year to commence, which may rise to 1,300*l.* a year on becoming Surgeon-General. Certain extras are also paid. Full particulars, with details in regard to the examination, pension, etc., are given in the regulations, copies of which may be obtained from the Director-General, Medical Department, Admiralty, London, S.W.

ARMY.—Commissions in the Royal Army Medical Corps are given to registered medical practitioners between twenty-one and twenty-eight years of age who pass an examination in medicine and surgery conducted on behalf of the War Office. Candidates are only allowed to compete twice. Payment begins with an appointment as lieutenant at 14*s.* per day, exclusive of allowances, and rising to 2,000*l.* a year, which is paid to the Director-General. A pamphlet (price 1*d.*) entitled "Regulations for Admission to the Royal Army Medical Corps" gives full particulars of the conditions, and can be obtained from Messrs. Wyman & Sons, Ltd., Fetter Lane, London, E.C.

INDIA.—Commissions of medical officers in the Indian Medical Service are granted on examination to registered medical practitioners between twenty-one and twenty-eight years of age, the pay to lieutenants being from 420 to 500 rupees per month, exclusive of certain extras, with a retiring allowance of from 300*l.* at the end of seventeen years' service to 700*l.* at the end of thirty years' service. Forms of application and full printed particulars may be obtained from the Military Secretary, India Office, London, S.W.

Many medical men before going into practice gain post-graduate experience on hospital staffs.

### MEDICAL EDUCATION IN EUROPE.

The subject of a report to the Carnegie Foundation for the Advancement of Teaching, recently published in New York, is "medical education in Europe," and well repays study. The great principle that ought to underlie all education is insisted upon in an introduction by Mr. Pritchett; it is, that the object of education is to educate. "Medical education," says the writer, "is an educational rather than a professional problem." A reviewer of this report very pertinently remarks that "in those countries in which the elementary and secondary school system is weak, the general level of professional education is low"; which recalls the recent declaration of an eminent English scientist to the effect that he would rather have as a pupil in any science a youth of good classical education than one who, without this, had a considerable previous acquaintance with the subject to be studied. The pre-eminence of Germany in medical and general science is undoubtedly due in great measure to her superior school system. A second and an analogous principle insisted upon as necessary to real education in any branch of knowledge is that it must be studied for its own sake; a third is the superiority of observation and personal research to authority. The problems to be investigated and the methods to be employed having been explained, the results to be attained and the conclusions to be drawn must be left to the student if his faculties are really to be exercised. This may not be the quickest way to "a pass," but it is the only way to education.



## Dentistry.

As years go by the public are appreciating more and more the value of dental services. Nowadays every effort is made to conserve a tooth, and as the knowledge of dietetics spreads, the necessity of proper mastication, which is not possible without a full set of teeth, is being more widely appreciated. Thus, although the number of persons qualifying for the profession each year is increasing, it is as yet not overcrowded, and chemists, when considering the choice of a profession for their sons, should bear in mind the practice of dentistry. Even if a youth has already spent a year or so in the pharmacy, the training and knowledge thus gained will be particularly useful in after years. The profession is one best taken up by those who have a taste for delicate mechanical operations, as the making and accurate fitting of a denture calls for great skill in mechanics.

### THE PRACTICE OF DENTISTRY

is regulated by the General Medical Council under the Dentists Act of 1878, and the first step in complying with the statutory requirements consists in passing an examination in general education which is approved by the Council (see index folio 294). The period of professional study varies, four years being the minimum, which must be expended in apprenticeship classes and hospital practice. The general requirements of the curriculum are perhaps best explained in the particulars below of the diploma of the Royal College of Surgeons of England. Before the student enters upon his course of practical study he should register as a dental student, as the curriculum only counts after registration has been effected.

### Dental Diplomas.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND grants a diploma in dental surgery to registered dental students who comply with its curriculum and pass its three examinations. These are:

The *Preliminary Science examination* in chemistry and physics, which is identical with Parts I. and II. of the first examination of the Conjoint Examining Board in England. Certificates must be produced showing that the candidate has attended not less than 180 hours' instruction in laboratory work in chemistry and 120 hours' instruction in laboratory work in physics. The courses may be commenced before the Preliminary examination, and they need not be completed within a year, nor run concurrently.

The *First Professional examination*, the subjects being: Part I., mechanical dentistry; and Part II., dental metallurgy. The parts may be taken together or separately. Before entering for this examination evidence must be brought forward (1) Of not less than two years' instruction in mechanical dentistry. (2) Of registration as a dental student. (3) Of having attended at a recognised dental hospital and school: (a) a course of lectures on dental metallurgy; (b) a course of practical dental metallurgy; (c) a course of lectures on dental mechanics; (d) a course of practical dental mechanics, including the manufacture and adjustment of six dentures and six crowns.

The *Second Professional examination* is in two parts: Part I., general anatomy and physiology, general pathology and surgery; Part II., dental anatomy and physiology, dental pathology and surgery, and practical dental surgery. The examination is partly written, partly practical, and partly oral. Candidates may present themselves for Part I. of the examination six months after passing their First Professional examination, or for the whole examination, and must also have certificates (1) Of having been four years in the acquirement of professional knowledge, subsequent to date of registration. (2) Of having attended at a recognised hospital and school: (a) a course of dental anatomy and physiology; (b) a separate course of dental histology, including the preparation of microscopical sections; (c) a course of dental surgery; (d) a separate course of practical dental surgery; (e) a course of not less than five lectures on the surgery of the mouth; (f) a course of dental bacteriology; (g) a course of dental materia medica; (h) a course of practical instruction in the administration of such anaesthetics as are in common use in dental surgery. (3) Of having attended at a recognised hospital the practice of dental surgery during two years. (4) Of having attended at a recognised medical school: (a) a course of lectures on anatomy; (b) a course of lectures on physiology; (c) a separate course of practical physiology; (d) a course of lectures on surgery; (e) a course of lectures on medicine. (5) Of having

performed dissections at a recognised medical school during not less than twelve months. (6) Of having attended at a recognised hospital or hospitals the practice of surgery and clinical lectures on surgery for twelve months during the ordinary sessions. (7) Of being twenty-one years of age.

Certain degrees or licences in dental surgery recognised by the College admit the holder to the Second and Third examinations without passing the Preliminary Science examination. The fees payable amount to 21*l.*, half of which is for the examinations and the other half for the diploma. Complete particulars are given in the regulations relating to the diploma in dental surgery, from the Secretary, Examination Hall, 8-11 Queen Square, Bloomsbury, W.C.

THE ROYAL COLLEGE OF SURGEONS, EDINBURGH, requires every candidate for its licence in dental surgery to take two Professional examinations. The first is (1) in chemistry and physics, and (2) anatomy and physiology; and the second embraces (1) surgery and medicine, and the special subjects of dental anatomy and physiology, dental surgery, and pathology, dental materia medica, dental mechanics, and dental metallurgy, with a practical written and oral examination in dental and oral surgery, pathology, and mechanics. The total fee is 15*l.* 15*s.* Besides attending an approved full course of instruction, proof has to be furnished that the candidate has undergone not less than three years' instruction in mechanical dentistry. Address all communications to Mr. D. L. Eadie, Clerk to the College, 54 George Square, Edinburgh.

THE ROYAL FACULTY OF PHYSICIANS AND SURGEONS, GLASGOW, conducts examinations which are much the same as at Edinburgh. Dr. A. Duncan, B.A., 242 St. Vincent Street, Glasgow, will supply full particulars.

THE ROYAL COLLEGE OF SURGEONS IN IRELAND grants its diploma in dental surgery to candidates who have fulfilled its prescribed curriculum and passed its two dental examinations. The subjects at the first examination are (a) physics and chemistry, including practical chemistry and metallurgy; (b) general anatomy, physiology, and histology, and dental anatomy, physiology, and histology. The two groups may be taken together or separately. The Final Dental examination is in general pathology, medicine and surgery, dental surgery and dental pathology, with the materia medica and therapeutics applicable to dental surgery, dental mechanics and metallurgy, and orthodontia. The candidate must pass in all subjects on one occasion. Fees total 21*l.*, of which 8*l.* 8*s.* is for the diploma. Candidates who have taken chemistry and physics in the First Professional examination of the Conjoint Board in Ireland, or an approved equivalent examination, are exempted from the First Dental examination and from producing evidence of study in them. The Council has power to admit to examination *sine curriculum* candidates whose names are on the Dental Register. All communications should be addressed to the Registrar, Royal College of Surgeons, Stephen's Green, Dublin.

### University Degrees and Diplomas.

The degrees and diplomas obtainable at the various Universities are indicated below:

*Birmingham*.—The degrees in dentistry are B.D.S. and M.D.S., and the diploma L.D.S. The curriculum for B.D.S. and L.D.S. covers five years, and costs 146*l.* 19*s.*, and the degree is not conferred upon any candidate who has not obtained the L.D.S. Hon. Secretary, Mr. J. Humphreys, Dental Department, University, Birmingham.

*Bristol*.—B.D.S. and M.D.S. degrees are granted, and also L.D.S. diploma. Composition-fees for complete curricula: B.D.S., 199*l.* 10*s.*; L.D.S., 174*l.* 8*s.*

*Durham*.—A diploma in dental surgery is granted, for which there are four examinations. Diploma-fee, 3*l.* Address, the Secretary, Professor Howden, University of Durham College of Medicine, Newcastle-on-Tyne.

*Leeds*.—Degrees (B.Ch.D. and M.Ch.D.) are granted, also a diploma. The approximate cost of the degree is put down at 277*l.* 5*s.* 6*d.*, and for the diploma 256*l.* 5*s.* Address, Professor A. S. Grünbaum, Dean of the Faculty of Medicine.

*Liverpool*.—Degrees (B.D.S. and M.D.S.) and L.D.S. diploma. Fees for Liverpool diploma are 58*l.* 10*s.*; other licensing bodies, 61*l.* 10*s.* Mechanical dentistry and hospital practice cost 100*l.* Lecture-fees for B.D.S. degree 67*l.* 10*s.*, and clinical practice 126*l.* Address the Registrar.

*London*.—The examination for degree of Master of Surgery in Branch II, Dental Surgery is open to graduates in medicine of this University who have spent at least three years (one subsequent to graduation) at an approved dental school, and have held an appointment at an approved dental hospital for six months. The examination-fee is 20*l.*

*Manchester*.—Two degrees and a diploma are granted. The B.D.S. curriculum covers five years and four examinations

have to be passed. Composition-fees: B.D.S., 63/; for the L.D.S., University 57/ 15s. and England 63/. Dental Hospital fees payable, 130/ (for B.D.S.) or 100/ (for L.D.S.). Professor W. Stirling, M.D., D.Sc., Dean of the Medical Faculty, will supply further particulars of the Dental Department.

**Dublin.**—The National University grants two degrees (B.D.S. and M.D.S.) in dental surgery. For the B.D.S. there are four examinations, and candidates must have been apprenticed to a registered dentist for a period of not less than two years. Trinity College (University of Dublin) grants the M.Dent.Sc. degree, and also a licence in dental surgery.

### Dental Institutions.

The following are the dental colleges and hospitals where the whole or part of the professional instruction, as approved by the various licensing bodies, can be obtained. The various institutions which provide approved Preliminary Scientific courses are given in the list of medical institutions (index folio 308). For fuller particulars students should write to the Dean or Secretary of the institution.

**BIRMINGHAM.**—University Dental Department and Dental Hospital.

**BRISTOL.**—University Faculty of Medicine, Dental Department.

**DUBLIN.**—School of Dentistry in connection with the Incorporated Dental Hospital of Ireland, Lincoln Place. Fees: 12/ 12s. for hospital practice, 6/ 6s. for dental lectures, composition-fee 15/ 15s. per annum. Dean, Mr. George Sheppard, L.D.S.Eng., F.R.C.S.I.

**EDINBURGH.**—Dental Hospital and School, 31 Chambers Street. Fee, 31/ 10s. for two years' hospital practice. The cost of the professional study and diploma is given as 106/ 2s. Dean, Mr. William Guy, 11 Wemyss Place.

**GLASGOW.**—Dental Hospital and School, 158 Renfrew Street and 15 Dalhousie Street. Dean, W. D. Anderson. Fees for dental lectures and two years' hospital practice, 35/ 14s. Secretary, Mr. D. M. Alexander, 97 West Regent Street.

**LEEDS.**—University School of Dentistry.

**LIVERPOOL.**—University School of Dental Surgery and Dental Hospital, Pembroke Place and Boundary Place.

**LONDON.**—*Charing Cross Hospital Dental Department*, Chandos Street, W.C.—Composition-fee (two years), 57/ 15s. Dean, Mr. F. C. Wallis, F.R.C.S.

*Guy's Hospital Dental School*, London Bridge, S.E.—The whole curriculum for the L.D.S. is provided here. The fees for dental lectures and demonstrations and dental practice only, for L.D.S.Eng., are 53/. Instruction in dental mechanics costs 52/ 10s. per annum. Inclusive fee for

students for L.R.C.P., M.R.C.S., and L.D.S.Eng. courses of instruction is 199/ 10s. Dean, Dr. H. L. Eason.

*King's College*, Strand, W.C.—Composition-fee for L.D.S. course, 36/ 15s. Dean, Dr. Peter Thompson.

*London Hospital Dental School*, Mile End, E.—The session will open on October 1. Fees: Dental mechanics (two years), 105/; full L.D.S. course, 210/. Particulars from the Dean, Dr. W. Wright, F.R.C.S., D.Sc.

*Middlesex Hospital*, Berners Street, W.—Composition-fee, 56/ 14s. Dean, H. Campbell Thomson, M.D., F.R.C.P.

*National Dental Hospital and College*, Dental Department, University College Hospital, Great Portland Street, W.—Fees for complete curriculum, comprising two years' mechanics and two years' hospital practice and lectures, 200/; the fee for special lectures and hospital practice is 40/; and for mechanical training, 50/ per annum. Dean, Mr. Sidney Spokes.

*Royal Dental Hospital of London and London School of Dental Surgery*, Leicester Square, W.C.—Fees for instruction in dental mechanics and the two years' hospital practice and lectures for L.D.S., 150/; or hospital practice and lectures only, 53/ 3s. The approximate cost of education for the diploma (including fees, books, and instruments) is given as 280/ 14s. Dean, Mr. W. H. Dolamore, M.R.C.S., L.R.C.P., L.D.S.

*St. Bartholomew's Hospital*, Smithfield, E.C.—For particulars of the dental department apply to the Dean of the School, Dr. T. W. Shore.

*St. George's Hospital*, Grosvenor Place, S.W.—Annual composition-fee, 15/ 15s. Dean, Dr. E. I. Spriggs.

*St. Mary's Hospital*, Paddington, W.—Dental course, 52/ 10s. Dean, Sir John Broadbent, Bart.

*St. Thomas's Hospital*, Albert Embankment, S.E.—Dean, Dr. Edward Stainer, M.A., M.D., M.Ch.Oxon.

*University College Hospital*, Gower Street, W.C.—Fee for the subjects of the dental curriculum, 68/ 5s. Dean, Dr. G. F. Blacker, F.R.C.P., F.R.C.S.

*Westminster Hospital*, Broad Sanctuary, S.W.—Fees for lectures and general surgical practice for R.C.S. diploma, 52/ 10s. Dean, Dr. W. Carnalt Jones.

**MANCHESTER.**—The Dental Hospital, Oxford Road, in association with the Victoria University and the Manchester Royal Infirmary. Fee for whole dental hospital practice for B.D.S. degree 130/; or L.D.S. diploma 100/. Dean, Mr. J. Hilditch Mathews.

**NEWCASTLE-ON-TYNE.**—Durham College of Medicine, Dental Hospital and School, Handysides Buildings, Percy Street.

**SHEFFIELD.**—University Dental School for R.C.S. diploma. Composition-fee for lectures 30/; Royal Hospital, Dental Department, fee for dental hospital practice, 21/.

## Veterinary Surgery.

UNDER the Veterinary Surgeons Act of 1881 the practice of veterinary surgery is entrusted to the Royal College of Veterinary Surgeons, Red Lion Square, London, W.C. This corporate body (which was granted a charter in 1844) is the only institution in this country empowered to grant licences for the practice of veterinary surgeons. It confines itself to examining candidates for its diploma (M.R.C.V.S.), the educational facilities being provided at affiliated colleges in London, Edinburgh, Dublin, Glasgow, and Liverpool. A Preliminary examination in general knowledge as recognised by the General Medical Council is the first requisite (index folio 294), after which a four years' course at an affiliated veterinary college must be entered upon, and an examination passed at the end of each year. The Final examination for the diploma can be taken until the candidate has attained twenty-one years of age. The following outlines of the examinations indicate the subjects required for the curriculum:

### First Year (Class A):

1. Anatomy of the domesticated animals.
2. Chemistry and elementary physics.
3. Biology: Elementary zoology and botany.

### Second Year (Class B):

1. Anatomy of the domesticated animals.
2. Histology and physiology.
3. Stable management, the manipulation of the domesticated animals, and the principles of shoeing.

### Third Year (Class C):

1. Morbid anatomy, pathology, and bacteriology.
2. Materia medica, pharmacy, therapeutics, and toxicology.
3. Veterinary hygiene and dietetics.

### Fourth Year (Class D):

1. Principles and practice of veterinary medicine. Meat inspection.
2. Principles and practice of veterinary surgery.

The fee for each year's examination is 5/. Re-examination costs 3/ 3s. There is also a registration-fee of 1/ on passing the Final examination.

Members who have held the diploma for five years may enter for the examination for the Fellowship of the Royal College of Veterinary Surgeons. This consists of a written and practical examination in veterinary medicine and surgery, pathology and bacteriology, hygiene and sanitary science, and a thesis has to be presented and defended before the Board of Examiners.

Mr. Fred Bullock, Secretary, 10 Red Lion Square, London, W.C., will supply particulars of the examinations of the Royal College of Veterinary Surgeons.

### VETERINARY DEGREES.

The London University confers the degrees B.Sc. and D.Sc. in veterinary science. After matriculation, which allows professional studies for the M.R.C.V.S. to be commenced, intending graduates are required to study for four years, passing a Preliminary examination in inorganic chemistry and physics, an Intermediate in (i) organic and applied chemistry, biology, veterinary anatomy, and (ii) veterinary physiology, and at the end of the four years a Final examination in veterinary pathology and veterinary hygiene. Similar degrees are granted by the Universities of Edinburgh and Glasgow. The University of Manchester grants a diploma in veterinary



State medicine, and the Liverpool University grants a diploma in veterinary hygiene.

### Veterinary Instruction.

#### AFFILIATED COLLEGES.

The institutions are those affiliated to the Royal College of Veterinary Surgeons at which the veterinary instruction required by candidates for the M.R.C.V.S. diploma must be obtained. The Carnegie Trust pays the fees of students at the veterinary colleges in Edinburgh and Glasgow if the conditions laid down by the trustees are fulfilled. The Preliminary examination of the Educational Institute of Scotland does not satisfy these.

LONDON.—*Royal Veterinary College* (founded 1791; incorporated 1875), Great College Street, Camden Town, N.W.—Educational fee for the four years' course of instruction, 84*l.*, paid in four instalments, and 2*l.* 12*s.* 6*d.* library fees. There are also fees for occasional students as follows: Anatomy, 8*l.* 8*s.*; botany, 3*l.* 3*s.*; chemistry, 5*l.* 5*s.*; pathology, 5*l.* 5*s.*; physiology, 5*l.* 5*s.*; practical chemistry, 3*l.* 3*s.*; practical histology, 3*l.* 3*s.*; practical pathology, 5*l.* 5*s.*; surgery, 5*l.* 5*s.*; and veterinary medicine, 5*l.* 5*s.* Post-graduate courses are also held, for which the fee is 10*l.* 10*s.* Prin-

cipal and Dean, Professor Sir John McFadyean, M.B., B.Sc., M.R.C.V.S. Secretary, Mr. R. A. N. Powys.

DUBLIN.—*Royal Veterinary College of Ireland*, Pembroke and Shelbourne Roads, Balls Bridge.—Fees, 21*l.* per session, with 1*l.* 1*s.* entrance-fee. The thirteenth session begins October 1. Principal, Professor A. E. Mettam, B.Sc., M.R.C.V.S. Registrar, G. E. Haines.

EDINBURGH.—*Royal (Dick) Veterinary College* (founded 1823).—Entrance and class fees for the complete curriculum are 72*l.* 9*s.*, in four payments. Extra fee of 5*l.* 5*s.* for each subsequent period of ten weeks. Principal, Professor O. Charnock Bradley, M.D., D.Sc., M.R.C.V.S. Secretary, Mr. Robert Anderson, S.S.C., 37 York Place, Edinburgh.

GLASGOW.—*Glasgow Veterinary College* (established 1862; incorporated 1909), Buccleuch Street, Garnethill.—The College is under the management of a Board of Governors, and is recognised as a central institution under the Education (Scotland) Act, 1908. The fee for the complete M.R.C.V.S. course is 72*l.* 9*s.* There are a number of bursaries for which students are eligible. Principal, Professor J. McCall, F.R.C.V.S. Secretary, Mr. Alexander Russell, 105 St. Vincent Street, Glasgow.

LIVERPOOL.—*The University Veterinary School* is the only institution affording an intramural university training for the Veterinary diploma. Fees for the complete curriculum, 75*l.* 12*s.* Secretary of Veterinary Board, Mr. J. Share-Jones, M.Sc., F.R.C.V.S.

## Scholarships and Prizes.

THE free or aided opportunities for study in scholastic institutions are extending each year, scholarships being available nearly everywhere for secondary and university education. The habit of winning scholarships is one which should be acquired early, and it is the student who first wins his spurs by gaining an exhibition of the local grammar-school or education authority who takes the plums as regards subsidies towards university degrees and fellowships. In most cases there are exhibitions and scholarships at local technical institutions which lead to better awards. There are many scholarships and prizes in science subjects and medicine, but the pharmaceutical prizes are not numerous. We give brief particulars of those which interest students of pharmacy. Some are open to all students, but others are limited in scope. The best course to pursue for those eligible is to write for particulars to the address mentioned in connection with the competition.

NATIONAL SCHOLARSHIPS.—*Local exhibitions* in science are granted at the discretion of the local education authority usually by competition in connection with the Board of Education's annual examinations in science. The exhibitor may pursue studies for three years at the local institution, or at the Imperial College of Science and Technology. A maintenance allowance is included in the award.

*Royal Scholarships* (about twenty are offered each year) are tenable at the Imperial College of Science and Technology, or at the Royal College of Science, Dublin, and are awarded by the Board of Education on the results of their evening examinations (practically for the highest marks obtained on Honours subjects). The scholarship provides free lectures and laboratory work and a maintenance allowance of 60*l.*, with third-class return fare home once each session.

*The Free Studentships* in science are awarded under similar conditions to the Royal Scholarships, and total forty-five (about eleven each year). The studentship provides for free tuition at the Imperial College of Science. Particulars are contained in the Board of Education's "Regulations for Scholarships, Exhibitions, etc., in Science," price 1*d.*

THE CARNEGIE TRUST for the Universities of Scotland assists students in the payment of class fees, under certain conditions. Applicants must be over sixteen years of age, of Scottish birth or extraction, or must have given two years' attendance after the age of fourteen at a school or institution under inspection of the Scotch Education Department. They must also have obtained a Leaving Certificate of the Scotch Education Department containing evidence of such preliminary education as is required by the Universities for their respective graduating curricula. The course of study for each academic year must be approved by the University Adviser of Studies, or by the Executive Committee of the Trust. The annual allowances for new beneficiaries will not exceed in science three grants of 12*l.* and in medicine five grants of 15*l.* Communications should

be addressed to the Secretary of the Trust, 14 Hanover Street, Edinburgh.

JACOB BELL SCHOLARSHIPS.—Two scholarships are offered annually by the Pharmaceutical Society as a memorial of Jacob Bell. The award comprises free education at the Society's School and 25*l.* in cash, with books to the value of 2*l.* 10*s.* The scholarships are open only to student-associates of the Society not less than twenty or more than twenty-two years of age who have been engaged for not less than three years in the pharmacy (*i.e.*, open shop) of a pharmaceutical chemist or a chemist and druggist. The examination is held on the third Tuesday in June, at London, Edinburgh, and Manchester. Application for admission must be made on or before June 1 to Mr. Richard Bremridge, 17 Bloomsbury Square, London, W.C. The subjects of the examination are:

*Latin*.—Translation of "unseen" passages. Latin into English, English into Latin.

*French or German*.—Translation of "unseen" passages. French or German into English, English into French or German.

*Chemistry, Pharmacy, and Botany*.—A three-hours' paper dealing with these subjects in their relation to the British Pharmacopoeia. The questions will be based upon an elementary knowledge of the principal chemicals, drugs, and processes of the British Pharmacopoeia such as a student may reasonably be expected to have acquired during apprenticeship.

THE MANCHESTER PHARMACEUTICAL ASSOCIATION SCHOLARSHIP is open to student-associates of the Pharmaceutical Society who have been engaged for not less than three years in the pharmacy of a pharmaceutical chemist or a chemist and druggist in Lancashire, Cheshire, or the High Peak Parliamentary Division of Derbyshire. It has an annual value of about 26*l.*, which is spent in paying for school tuition. The other conditions of entry and competition are similar to those of the Bell Scholarship, except that the age limit is not less than nineteen or more than twenty-one. The winner of this scholarship may study in any provincial school of pharmacy or in the Society's school. The scholarship frequently goes a-begging.

FAIRCHILD SCHOLARSHIP AND PRIZES.—One scholarship of 50*l.* and four prizes of 5*l.* each are awarded annually by a Committee of Trustees on behalf of the donors, Messrs. Fairchild Bros. & Foster, London and New York. The awards are open to any registered student of pharmacy in the United Kingdom between the ages of twenty and twenty-two, who has fulfilled the conditions of entry for the Minor examination of the Pharmaceutical Society of Great Britain or the Licence examination of the Pharmaceutical Society of Ireland. The examination comprises written papers in elementary chemistry, elementary materia medica, practical pharmacy, prescription-reading, and elementary business knowledge. The candidate obtaining the highest aggregate number of marks is awarded the scholarship, and out of it he must pay school-fees for not less than three months at any scholastic institution he may select to enable him to prepare for the Minor examination of Great Britain or the Licence examination of Ireland. Any of the money not used in this manner is paid to the student for maintenance. The prizes of 5*l.* are awarded to the best students in England, Wales, Scotland, and Ireland. The questions set in this year's examination were printed in the Coloured



Supplement of THE CHEMIST AND DRUGGIST for June 29, and the results were given in our issue of August 3, index folio 187. The examination syllabus can be obtained from Mr. A. E. Holden, Secretary, Albert Chambers, 64 and 65 Holborn Viaduct, London, E.C., with whom entries must be made for the next examination before June 1, 1913. The candidates may be examined at any of the following centres: Cardiff, Dublin, Edinburgh, London, and Manchester—at which the examination is held in June.

"CORNER FOR STUDENTS" PRIZES.—THE CHEMIST AND DRUGGIST founded these competitions for students in 1868, and many competitors have testified in these columns to their great utility. Exercises in qualitative chemical analysis are provided, for which two book prizes are offered monthly. A tournament is conducted throughout the winter session, the marks each month being registered, and the three competitors who receive the highest number are awarded parchment certificates and book prizes to the value of 2*l.* 2*s.*, 1*l.* 1*s.*, and 10*s.* 6*d.* Prizes are also awarded to any student whom the conductor of the "Corner" (Dr. Leonard Dobbin) judges to have made meritorious progress.

HERBARIUM PRIZES.—The Pharmaceutical Society of Great Britain offers medals and certificates to its student-associates for a herbarium of British plants collected in any part of the United Kingdom, the Channel Islands, or the Isle of Man between January 1 in one year and July 1 in the year following. The collection must not exceed 150 specimens, which must be selected and mounted to display the characteristic features of the more prominent and typical genera of the chief British natural orders. Particulars can be obtained from Mr. Bremridge, 17 Bloomsbury Square, London, W.C.

Messrs. Potter & Clarke, Ltd., Artillery Row, London, offer annually silver and bronze medals for competition among apprentices in the retail drug-trade for a collection of medicinal plants, not exceeding twenty-four, gathered, dried, mounted, and named by such apprentices. The plants may be gathered at any time of the year before June 30.

THE ABERDEEN PHARMACEUTICAL ASSOCIATION offers for competition, open to students attending the evening classes of The School of Pharmacy, Robert Gordon's Technical Colleges, two prizes in each of the subjects taught during the session. Full particulars may be had from the Secretary of the Association, Mr. W. F. Hay, 476 Union Street, Aberdeen.

BOWMAN PRIZES.—Six book prizes, of an aggregate value of 10*l.*, presented by Mr. W. P. Bowman, are offered annually by the Leeds Chemists' Association. The questions are in chemistry and pharmacy, and are in two sets—one for juniors and the other for seniors. Entry must be made before March. The syllabus is obtainable from Mr. R. G. Shaw, 93 Dewsbury Road, Leeds.

THE EDINBURGH CHEMISTS', ASSISTANTS', AND APPRENTICES' ASSOCIATION offers three prizes, value 1*l.* 1*s.*, for competition among its members only. For particulars of the examinations apply to the Secretary, Mr. G. H. Etchells, 46 Leith Street, Edinburgh.

### Post-Graduate Awards.

The pharmacist is generally not eligible for the above-mentioned awards, but those given below are awarded subsequent to the qualifying examination.

THE PHARMACEUTICAL SOCIETY OF GREAT BRITAIN offers annually three medals for competition by pharmaceutical chemists who have passed the Major examination during the year. The examination is in materia medica, botany, and chemistry, and is held shortly after the Major examination in April. The Registrar communicates with each person entitled to compete, advising him of the matter. The first prize is the Pereira Silver Medal and 5*l.* worth of books; second, the Society's Silver Medal; third, the Society's Bronze Medal.

The Society also has in its gift the following scholarships:

*The Redwood Scholarship*, of the value of about 60*l.* in cash, which is awarded every second year to a pharmaceutical chemist, and enables him to work in the Society's research laboratory.

*The Burroughs Scholarship* of 60*l.* is a similar award every second year.

*The Salters' Research Fellowship* in chemistry, of the annual value of 100*l.*, is awarded by the Salters' Company on the Society's nomination for a similar purpose.

THE PHARMACEUTICAL SOCIETY OF IRELAND.—The Council awards annually a gold and silver medal to pharmaceutical chemists who have during the year passed the Licence examination and obtained the following standard of marks: For the gold medal, not less than 240 marks out of 300, and sixty-five in each of the three subjects; for the silver medal, 230 marks out of 300, and sixty in each of the three subjects.

THE CHARLES JAMES HEWLETT MEMORIAL EXHIBITION is awarded on the recommendation of the Professors of the Pharmaceutical Society's School to the student (other than a Bell scholar) who is most successful in the examination

for the school prizes in the elementary course. The exhibition is about 15*l.* in value, and it pays the fees of the successful candidate for the ensuing advanced or Major course.

THE KINNINMONT PRIZE, awarded annually, is open to pharmacists residing in Glasgow and the West of Scotland who have passed the Minor at any time from April two years preceding the date of examination. The examination, which is in botany and elementary physics, is held in Glasgow in June. The Hon. Secretary is Mr. W. L. Currie, 223 Byres Road, Dowanhill, Glasgow.

### APPOINTMENTS.

The opportunities of becoming employes of the Government or of local authorities are comparatively few considering the relative importance of pharmacy, and, though generally these posts are poorly paid, there is usually keen competition for them. The appointments classed as analysts are held by persons who have specialised in certain directions. The posts under the Government may not be vacant for years, but when they do occur notification is given in the "London Gazette" and some of the principal papers, usually on Thursdays in the London daily papers.

### Dispensers.

METROPOLITAN ASYLUMS BOARD.—The salary paid by the Board for the post of dispenser is 100*l.* per annum, rising by annual increments of 5*l.* to 130*l.*, with dinner and tea daily.

ARMY DISPENSERS are non-commissioned officers in the Royal Army Medical Corps. Candidates must enlist in the Corps in the usual manner, and, unless in possession of a recognised civil certificate (such as the Minor certificate), must qualify according to instructions contained in the standing orders for the R.A.M.C. The would-be Army compounder must work up to the position which entitles him to enter for the examination. In larger hospitals practically all non-commissioned officers of the rank of sergeant and upwards are dispensers.

BOARDS OF GUARDIANS.—Poor-law dispenserships under the Local Government Board of England are open to those who hold certificates as Licentiates of the Society of Apothecaries, London; apothecaries' assistants (under the English Act); Army compounders; chemists and druggists (G.B.), or pharmaceutical chemists (Ireland). Salaries begin at 120*l.*, and can be increased by 20*l.* after four years, and then by biennial increments of 10*l.* until a maximum of 180*l.* a year is reached in the metropolitan area. In the provinces there is no fixed limit, the salary being fixed and varied by the Guardians of each Union, with the sanction of the Local Government Board. Dispensers receive pensions on retirement through age or ill-health, a deduction from the salaries being made in respect to this arrangement.

NAVAL HOSPITALS.—There are nineteen berths for dispensers at home and abroad, as follows: Haslar, six (including supernumerary appointment); Plymouth, four; Chatham, four; Haulbowline, Malta, Gibraltar, Hong-Kong, and Portland, one each. Candidates for vacancies (which are advertised as they occur) must be chemists and druggists or pharmaceutical chemists, and not more than twenty-eight years old. The pay commences at 110*l.* per annum, with biennial increments of 5*l.* until 130*l.*, then by 10*l.* every two years to 230*l.* Additional allowances of from 20*l.* to 40*l.* a year are made to dispensers in charge of stores; 20*l.* is also allowed to the dispensers instructing the Sick-berth Staff at Haslar, Plymouth, and Chatham. Free quarters are provided, and allowances made to those serving on foreign stations to meet the increased cost of living. Pensions are granted on retiring. Entry into the Service is by examination, conducted by the Civil Service Commissioners, but the candidates are first selected by the Medical Department of the Navy, Admiralty, S.W., to the Director-General of which Department applications respecting vacancies and nominations should be addressed.

PRISON SERVICE.—The regulations for pharmacists in English and Welsh prisons admit applicants between the ages of twenty-four and thirty-five years, inclusive. Candidates must hold a qualification of the Pharmaceutical Society of Great Britain, and must satisfy the Civil Service Commissioners as to their abilities in reading, writing, orthography, and arithmetic. The duties consist of dispensing medicines, assisting in keeping medical records, keeping medical and surgical instruments in order, assisting in the performance of surgical operations, doing the duties of hospital warder when necessary, and keeping the dispensary and its stores. The scale of remuneration is 105*l.* per annum, rising by 2*l.* per annum to 125*l.*, then by 5*l.* per annum to 150*l.*, with quarters, or 19*l.* 10*s.* per annum in lieu thereof. An allowance



of 5*l.* 4*s.* per annum is also granted in lieu of uniform. Pensions are granted on retiring. The photographic work in connection with the prison also frequently falls to the lot of the pharmacist, for which extra remuneration is allowed. An application-form for appointment to the subordinate staff in the prison service has first to be obtained from the Secretary of the Civil Service Commission, Burlington Gardens, London, W.

### Analysts.

THE ADMIRALTY, Whitehall, London, S.W., employs several chemists at Portsmouth, and as inspectors of victualling-stores at Deptford, Gosport, and Plymouth.

AGRICULTURAL ANALYSTS are appointed by County Councils under the Fertilisers and Feeding-stuffs Act, subject to the approval of the Board of Agriculture.

THE METROPOLITAN WATER BOARD, 20 Nottingham Place, London, W.—All the appointments upon the chemical and bacteriological staff of the Board's laboratory have been made up to the present as the result of public advertisement, but vacancies will usually be filled by promotion if there is a suitable applicant in one of the Board's departments.

THE WAR OFFICE, Whitehall, S.W.—The Civil Service Commission publishes the regulations for examination for chemists, Class III., Inspection Department, Woolwich, under the War Office. Age-limit, twenty to twenty-five.

THE PATENT OFFICE, Southampton Buildings, London, W.C., appoints examiners of patents, and some of these need to be chemists. Particulars of the open competitive examinations are obtainable from the Civil Service Commission, Burlington Gardens, London, W. Age-limit, twenty to twenty-five.

GOVERNMENT LABORATORY.—The Civil Service Commission, Burlington Gardens, London, W., publishes the particulars of the examination for second-class analyst in the Government Laboratory. The limits of age are from twenty to thirty. Examinations are held from time to time as candidates are nominated by the principal chemist to fill vacancies, and it is understood that they will ordinarily be competitive.

GAS EXAMINERS are appointed by public authorities to make independent examination of gas-supplies. In the provinces local professional chemists are usually appointed. The London County Council examines applicants for gas-testing appointments. The successful candidate is then appointed for relieving work, and permanent appointments are made by seniority. Some gasworks employ chemists to take the analytical control of the manufacture of gas.

## How I Won the Bell Scholarship.

By G. F. Axon, Senior Bell Scholar, 1912.

AFTER commencing my apprenticeship I heard much about the "Bell," so being fond of study I resolved to work hard and see if I could win one of the scholarships. Keswick being a season place, there was very little time during the

summer to study, but I did so during the winter evenings, when I managed to get in about three hours every night. So as to work systematically I drew up the following time-table. I read and studied these subjects from text-books and college notes which my employer, Mr. Linley Graham, kindly lent me:

On Monday evening I did materia medica.

On Tuesday evening I did pharmacy.

On Wednesday evening I did chemistry.

On Thursday evening I did dispensing.

On Friday evening I did botany

As I had the Wednesday half-holiday during winter and spring, and every other Wednesday afternoon during summer and autumn, I went for rambles, collecting and examining the botanical specimens which I obtained, and also looking for any points which arose while reading the text-book. I managed to fathom most of the difficulties which arose, but I always found my employer, Mr. Graham, extremely willing to explain anything I could not understand. There are no suitable classes in Keswick, so after spending four years in this way I went under the tuition of Mr. A. H. Dawes, by post; to his system I no doubt owe much of my success. He explained any mistakes in such a way as to leave them firmly fixed on my mind. So as to give me every facility for study Mr. Graham allowed me

to have the afternoons off, so that in addition to doing eight hours' shop-work every day I did eight hours' study, except Wednesdays, when I did five hours' shop-work and nine hours' study. I had every facility as regards dispensing. I made mixtures, ointments, cachets, pills, suppositories, powders, and also filling capsules; also the making of B.P. preparations. If employers take an active interest in the welfare of their apprentices, as Mr. Graham did in me, I am firmly convinced there will be a high standard of future pharmacists; also if apprentices only recognised the excellent preparation for the Minor this study for the Bell scholarship really gives, I am sure there would be far more entries. Having done a fair amount of Latin and French at school, I neglected it during the first four years, but took it up again under Mr. A. H. Dawes. I do not recommend this plan unless the apprentice has a good knowledge of Latin and French when leaving school; even then it is advisable to keep them up. French is easily kept up by getting a French newspaper every week and reading it through. I attribute my success to the fact that I have persevered, studied hard, had an interested employer, and a final "polish up" under an efficient coach.

## The Fairchild Scholarship.

MR. R. H. COLLINS, Bedford, the winner of the Fairchild Scholarship (*C. & D.*, August 3, index folio 187), has sent us an account of his methods of study, which will interest prospective competitors for the Fairchild Scholarships and Prizes:

I may say that the actual work for the Scholarship examination was confined to the last six months or so. I was apprenticed to Messrs. Taylor, Brawn & Flood, of Bedford, in October 1908, for four years, and I am now in the last stage of my apprenticeship.

During the first three years of this time I did not attempt any serious book-work, but obtained as much exercise as possible, and took up a book only when I felt inclined. In this way I kept in a fair state of health, while by applying myself closely to business I managed to get a good knowledge of practical pharmacy, dispensing, and business methods. I had a great liking for chemistry at school, so that by attending classes at the evening institution during the winter months I kept my knowledge fresh and increased it. At the beginning of last winter I set myself to work in earnest. I derived great benefit by sending each month for the *C. & D.* Students' Corner salts for analysis, and I was awarded first prize in one of the competitions. I also entered upon a course of postal tuition with Mr. Dawes for the Bell Scholarship, and although the chief object of this was to improve my Latin and French, it also gave me excellent practice in answering written questions. With regard to the books I used, I obtained the greatest help from White and Humphrey's "Pharmacopœdia." This work covers practically the whole of the materia medica required, and deals in detail with the pharmacy and chemistry of the B.P. I spent a great deal of my time with this book, comparing its descriptions with actual specimens of the various drugs and chemicals. I also made myself fairly intimate with Lucas's "Practical Pharmacy" and that useful book "The Art of Dispensing." The last few weeks I devoted to doses and the table of natural orders, etc., in the beginning of "Squire." Having made myself master of these, I felt ready for the ordeal, and was quite at home in the examination-room. I was not sorry that botany was not required, for I have no great liking for this subject, which is my weakest point.

OTHER EXAMINATIONS to which attention may be called are conducted by the National Association of Medical Herbalists of Great Britain. The subjects are physiology, pharmacy, materia medica, scientific botany, pathology, practice of medicine, and diet and hygiene. The Incorporated Society of Trained Masseuses hold examinations twice yearly. These are suitable for chemists' assistants who desire to take up massage, and judging from inquiries we receive the subject appeals to some. The Incorporated Society of Pharmacy and Drug-store Proprietors inform us that they are inaugurating an examination scheme on the lines of the Irish druggists' examination.



MR. R. H. COLLINS.



MR. G. F. AXON.

## TRADE REPORT.

The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers receive the goods into stock, after which much expense may be incurred in garbling and the like. Qualities of chemicals, drugs, oils, and many other commodities vary greatly, and higher prices than those here quoted are charged for selected qualities of natural products even in bulk quantities. Retail buyers cannot, therefore, for these and other reasons, expect to purchase at the prices quoted here.

42 Cannon Street, London, E.C., August 15.

**A**LTHOUGH no improvement in business is looked for this month, there is evidence of a fair amount of activity in several quarters, due to the fact that consumers' stocks need replenishing as the result of hand-to-mouth buying, and with the resumption of the drug-auctions next week further expansion may be looked for. Among drugs and essential oils, Russian ergot has been selling more freely, both on spot and to arrive. Belladonna-root is offered cheaply. Chamomiles are easier, but the present unfavourable weather has affected the colour of the crop, which is above normal. Chaulmoogra oil has been in demand, and eucalyptus oil is still in upward tendency, with little likelihood of cheaper prices this year, especially for B.P. oils. Gamboge has been more active. Jalap is quiet, and peppermint oil is cheaper for American, owing to the proximity of the new crop. Sandalwood oil is firm, and new American spearmint oil is cheaper. Among chemicals, atropine, cream of tartar, potash prussiate, soda nitrate, and ammonia sulphate are all dearer. Other changes include a firmer tone in the private market for shellac, and an irregular advance in turpentine, which has been active. The following table shows the principal fluctuations of the week:

Higher	Firmer	Easier	Lower
Atropine	Ammonia sulphate	Belladonna-root	Linseed oil
Cream of tartar	Cod-liver oil	Chamomiles	Peppermint oil (Amer.)
Nutmegs	Eucalyptus oil	Copaiba	Shellac
Potash prussiate	Resin	Hydrastis	(auction)
Starch powder	Shellac	Mace	Spearmint oil
	Soda nitrate	Turmeric (Madras)	

### Cablegram.

NEW YORK, August 15.—Business in drugs has improved. Opium has advanced to \$6.50 per lb. for druggists' in single cases. Peppermint oil in tins is 5c. easier at \$2.55 per lb. Hydrastis (golden seal) is cheaper at \$4.70 per lb. Round buchu is firm at \$1.65. Spearmint oil has been reduced to \$4.50, and cascara sagrada is steady at 9c. per lb.

### London Markets.

**ALOES.**—The *Kenilworth Castle* has brought 70 cases from Mossel Bay, which will be offered next week. Curaçao in boxes is firm at 52s. 6d. to 65s. for fair liver on spot.

**ANISE OIL (STAR)** remains firm at from 6s. to 6s. 1d. per lb. for "Red Ship" brand and 5s. 8d. c.i.f.

**ARSENIC.**—Present prices for guaranteed 99 per cent. white powder on the spot are 18l. 10s. per ton in barrels and 19l. 10s. in cwt. kegs.

**ATROPINE.**—The various makers who have been unduly cutting prices for a prolonged period have come to an understanding, whereby they have decided on an advance of about 5d. per oz., the quotation for 200-oz. lots of sulphate being 10s. 5d.

**BALSAM TOLU.**—In the absence of stocks, spot is nominal; probably a case could be had at 4s. 3d. net. To

arrive from the Continent, a few cases are offered at 4s. c.i.f.

**BELLADONNA-ROOT** is quoted at 33s. per cwt. c.i.f. for 0.5 per cent., being a shade easier.

**BENZON.**—The *Prometheus* has brought 132 cases from Singapore.

**BUCHU.**—The spot value of fair to good green round is maintained at from 6s. 3d. to 6s. 6d., and ovals at from 1s. 10d. to 2s. 3d., according to quality. We understand that 5 bales of genuine longs will be offered next week; this description is badly wanted, supplies having come forward extremely slowly. Four packages buchu arrived per *Kenilworth Castle* this week.

**CAMPHOR** is very quiet, Japanese refined 1-oz. tablets offering at 1s. 7½d., ½-oz. 1s. 9½d., and 2½-lb. slabs at 1s. 6¾d. spot. *Crude* is also quiet, China offering at 155s. spot, with small sales, and to arrive 150s. c.i.f. is quoted.

**CANNABIS INDICA.**—Small sales of loose African are reported at 11½d. to 1s. Genuine Bombay are offered at 5s.

**CASCARA SAGRADA.**—Further business has been done in new crop at 36s. 6d. c.i.f. for autumn shipment; on the spot new is offered at 41s. to 42s., up to 45s. for old

**CASTOR OIL** is steady. Hull make of pharmaceutical quality is offered at 31l. 17s. 6d., and first pressing at 29l. 7s. 6d. per ton in barrels for prompt to December, delivered free on wharf London; oil in tins and cases 50s. per ton extra. Belgian of first pressing for either prompt or forward is 29l. 10s., barrels free, ex wharf London. In Liverpool the spot price of good seconds Calcutta is 4½d. per lb., and forward 3¾d.; while first pressing Belgian is 3½d.

**CHAMOMILES.**—The Belgian crop having been favourable, prices show a slight decline from those last quoted, very fair to good white flowers being obtainable at from 85s. to 90s. per cwt. The quality this season is poor on the whole as a result of heavy rains, but the quantity is above normal.

**CHAULMOOGRA OIL.**—Fair quantities have lately arrived from Calcutta, but the bulk is for delivery against contract. For delivery in about six weeks the value is 3s. 3d. per lb. net, and there is practically nothing on spot.

**CINCHONA.**—Further particulars in regard to the Amsterdam auction to be held on August 22 show that the 11,004 packages weigh about 960,249 kilos. and contain 56,317 kilos. of quinine in the bark. The weight of the manufacturing bark is 855,741 kilos., containing 52,755 kilos. of quinine sulphate, while the weight of the pharmaceutical bark is 104,508 kilos., and contains the equivalent of 3,562 kilos. q.s. The average percentage of the manufacturing bark is 6.16, against 6.17 in July, 6.28 in June, and 6.49 in May.

**CITRATES.**—The makers have advanced their prices by ½d. per lb.; ferri et ammon. citras and/or potash citrate is now quoted at 1s. 7d. per lb. in 28-lb. lots, the list price being 1s. 8d. per lb. Sodium citrate is now 1s. 10d., and 28-lb. lots 1s. 9d. per lb. Ferri et quin. cit. is ½d. per oz. higher at 5d. per oz. in 25-oz. tins, 4½d. by 100 oz., 4¼d. by 500 oz., and 4d. by 1,000-oz. lots.

[The above paragraph was inadvertently omitted from our issue last week.]

**CITRIC ACID** is quiet but steady at 1s. 4¾d. for foreign, and 1s. 5d. for English.

**COCA-LEAVES.**—The 1,439 packages Java coca to be offered at the Amsterdam auction on August 22 weigh 75,620 kilos., the total of alkaloids being 1,233 kilos., and the average percentage 1.65.

**COD-LIVER OIL.**—Our Bergen correspondent writes on August 12 that the market in Norway is firmer, 61s. per barrel c.i.f. having been paid for finest non-congealing Lofoten oil, and even at this figure many holders are unwilling to sell. The exports from Norway during July amounted to 25,885 barrels. In London practically little business has been done, but agents are asking higher prices in sympathy with Norway.

**COPPER SULPHATE** is steady at 24l. for ordinary Liverpool brands, and at 25l. 5s. for January-April delivery.



**CORIANDER-SEED.**—For good sound Morocco of new crop nothing is obtainable on spot below 12s. per cwt.; the bulk of the old crop, being weevily, is difficult to move.

**CREAM OF TARTAR** is firm, and 1s. per cwt. higher at 89s. for 98 per cent., and 87s. for 85 per cent. The advance is brought about by an improved demand and the depleted stocks on spot, while the makers are well supplied with orders.

**CUBEBS.**—The *Prometheus* has brought 37 bags from Singapore. Prices are from 8l. to 8l. 5s. for fair stalky.

**ENGOT.**—The value of sound Russian on the spot is 3s. 8d. and German 3s. 5d. per lb.; to arrive Russian has been sold at 3s. 2d. c.i.f., but it is now difficult to get offers at this price.

**EUCALYPTUS OIL.**—We confirm what has already been published in regard to the paucity of offers from Australia, and in this connection we hear from Melbourne that the available stocks are insufficient for local requirements. It will be remembered in the early part of the year a spell of drought interfered with the distilling operations. Rain afterwards fell, but the fact that the trees were deprived in the earlier stages of their growth proved disappointing, and very little B.P. oil was produced. In London there is a very fair inquiry, and any parcels offering are immediately sought after. Business has been done on the spot in round lots at from 1s. 4½d. to 1s. 5d. net for usual B.P. oils, and globulus at from 1s. 5d. to 1s. 6d., but nothing is now obtainable at the inside figures. Amygdalina is quoted 1s. 1d. There seems to be little prospect of cheaper prices this winter.

**GAMBOGE.**—A fair quantity has changed hands between the auctions. Siam pipe of fair to good orange fracture is offered at from 14l. 5s. to 15l. per cwt.

**GLUCOSE.**—There is still great scarcity of liquid and chips on the spot, and prices are nominal. The supplies are coming forward very slowly, and the chief handlers can only supply a fraction of the demand at present.

**GLYCERIN** is steady at the official price of 87l. in drums and 91l. in tins in cases for chemically pure s.g. 1.260. The present conditions, says a leading refiner, rather favour higher than lower prices for the remainder of the year.

**GUARANA.**—For stuff afloat 9s. per lb. c.i.f. is asked, being dearer.

**JALAP** is quiet at 10½d. spot for 6 per cent.

**LEMON-JUICE.**—English-squeezed pure raw is offered at 1s. 5d. per gal. ex warehouse, London.

**LEMON OIL** is very quiet on spot at from 7s. 9d. to 8s. for guaranteed genuine; for prompt shipment 7s. 4d. to 7s. 10d. per lb. c.i.f. is quoted, and new crop at 6s. 2d. to 6s. 6d. c.i.f., according to shipper.

A Palermo advice dated August 10 states that the market for prompt or near delivery remains firm at unaltered rates. As for the orders received from abroad, there were sellers ready to take advantage of the margin between present prices and those which ruled at the commencement of the season. The situation remains strong, especially as the market has been strengthened considerably for new crop, and this influences the holders of spot parcels also. As regards new crop, the efforts which have been made to depress the market have not succeeded. On the contrary, it soon became apparent that those who tried to depress the market were trying to secure goods in view of the possibility of an advance, and the market then improved. The more so as local operators and consumers abroad have been again actively at work trying to make forward contracts for new crop. For shipment last crop is quoted at 7s. 5d. and new crop at 6s. 6½d. per lb. c.i.f.

**LIME-JUICE.**—The recent held-up parcels are now becoming available; values are from 2s. to 2s. 1d. per gal. for raw West Indian. Arrivals comprise 301 packages from Dominica.

**MENTHOL** is firm but quiet at 28s. per lb. spot for Kobayashi-Suzuki, at which a retail business has been done. Business to arrive has been done at 19s. for January-March shipment, and same position at 24s. c.i.f. in combination with oil. With extremely small stocks in the principal markets, many believe that still higher prices will yet be seen.

**OILS (FIXED).**—*Linseed* has been active, and is firm at 32s. 9d. to 33s. in pipes, and 33s. in barrels on spot. *Coconut* is also firm at 40s. for Ceylon, and 44s. for Cochín on spot. *Cottonseed* quiet at 26s. for crude, 27s. 3d. for ordinary pale refined, and 30s. 6d. for sweet refined. *Rape* is quiet at 33s. for ordinary brown, and 34s. 3d. for refined in casks. *Lagos Palm* oil is 29s. 9d. in Liverpool, and 32s. 6d. spot. *China Wood* oil is 35s. spot, and 35s. c.i.f. for August-September. *Turpentine* closes at 32s. 3d. spot; a large business has been done.

**OLIVE OIL.**—B.P. oils for manufacturing purposes are offered at from 3s. 10½d. to 4s. 3d. per gal. and for fine Italian eating oils 6s. is quoted in 50-gal. lots.

**OPIUM.**—The recent business in the Interior and among speculators in primary markets has led holders to ask the advanced rates of from 18s. to 18s. 3d. for 11 per cent. druggists', but these prices have not been paid. These figures are about 2s. to 2s. 3d. per lb. higher than those at which business was recently done in new crop. As regards the future it is difficult to make any pronouncement, but under present conditions the prospects of opium being obtainable at round about 15s., as was thought possible, now seem remote. The spot value of Turkey druggists' is from 20s. to 21s. Small sales of Salonica soft shipping have been made at 24s. to 24s. 6d. for middling test.

A Smyrna correspondent writes on August 2 that the principal holders continue to maintain their late-high pretensions; nevertheless from some weak needy dealers business to a limited extent is feasible, 11-per-cent. new or old mixed druggists' offering at 16s. 3d. and 15s. for 10-per-cent. For more uniform qualities and above percentage a buyer, however, must be prepared to pay fully 1s. per lb. over and above the 15s. and 16s. 3d. bases. Prices on the producing markets are higher than in Smyrna, and the dealers buy up all that offers, which is an indication that the outturn of the Anatolian crop will be short again this year. The arrivals in Smyrna amount to 700 cases, against 303 cases at the same date last year.

A Constantinople correspondent writes on August 9 that the sales amount to 40 cases druggists' at from 230 piastres to 255 piastres, two cases "soft" at 275 piastres per oke, and nine cases Malatia, the latter for export. In the same period Smyrna sold about 75 cases at from 155 piastres to 180 piastres per chequi. The Salonica market is also active. It is reported that the Japanese Government intend to make some purchases in Constantinople as well as Smyrna, and in face of this new situation and scarcity on spot the market is tending upwards. The arrivals in Constantinople amount to 617 cases, against 283 cases, comprising 403 druggists', against 255: "soft" 47, against 28; and Malatia, 167 cases. The stock is 542 cases, against 308 cases.

**ORANGE OIL.**—Business continues on a very small scale for both prompt and new crop at unchanged prices, although the position is firm in sympathy with lemon oil. For *sweet* of the last crop 8s. 4½d. c.i.f. is quoted, and 7s. 4d. c.i.f. for new crop. *Bitter* is offered at 8s. 5½d. per lb. c.i.f. London.

**OTTO OF ROSE.**—Last year's distillation is still offered at 55s. per English oz., and sales have been made thereat. There are several parcels of new crop offered on this market, which are heavily adulterated. To-day a cable has been received by a leading agent quoting 67s. 6d. per English oz. in Bulgaria for guaranteed genuine otto, which may be taken as the first authentic price received here.

**PEREIRA BRAVA** is scarce on the spot, the value of sound being 42s. 6d. net cwt.

**PEPPERMINT OIL.**—The favourable outlook in regard to the growing crop in America exerts an easier feeling for tin oil, the quotations for which are from 10s. 6d. to 11s.; bottled oil is unchanged at 15s. 6d. In Japanese dementholised 6s. 9d. c.i.f. has been paid for August-September shipment.

**POTASSIUM PRUSSATE** has advanced ½d. to ½d. per lb. to 5½d. for foreign yellow. *Soda prussiate* is unchanged at 3d.

**QUICKSILVER** is unchanged at 8l. 5s. and 8l. per bottle from first- and second-hands respectively.

**QUININE** is quiet but steady, with secondhand sales of the usual brands of German sulphate at 9½d. and buyers;

Amsterdam is quoted 9½*d.* The bark sale at Amsterdam next week overshadows the market.

At the auction held by the Amsterdam Quinine Works on August 9, 1,417½ kilos. (50,000 oz.) Ed. II. were sold at an average price of fl.14.62 per kilo., against fl.13.50 per kilo. at the previous auction. The next auction will be held on August 23, when a similar quantity will be offered.

RESIN is firmer at 16*s.* 4½*d.* ex wharf for common strained and 16*s.* 1½*d.* ex ship conditions.

RHUBARB.—The *Prometheus* has brought 34 cases from Shanghai.

SANDALWOOD OIL is firm, finest English drawn oil offering at from 12*s.* to 12*s.* 6*d.* per lb.

SENN.—A fair quantity of Tinnevely has arrived, part of which will be offered next week.

SHELLAC.—At auction on Tuesday 519 cases offered and 460 cases sold without reserve at about 2*s.* cheaper for good to fine second Orange and unaltered for TN descriptions. Garnet was easier. Fine pale free Orange realised 75*s.* to 76*s.*; seconds, good to fine pale slightly matted, 72*s.* to 73*s.*; fine second Orange, slightly matted, 69*s.* to 71*s.*; good free to slightly matted, 67*s.* to 69*s.*; TN qualities, reddish free dark mixed, 62*s.*; fair part matted, 61*s.* to 62*s.*; dark livery free to partly matted, 56*s.* to 58*s.* Ten cases AC Garnet sold at 59*s.* Privately the market is firm but quiet, usual standard TN Orange selling at 63*s.* to 64*s.* on spot; to arrive October-November shipment of TN is quoted 64*s.* and AC Garnet for November-December at 58*s.* c.i.f. Futures are firm, with a good business, including August at 63*s.* 6*d.* and buyers, October at 64*s.* 6*d.*, December 65*s.* 6*d.*, and March 67*s.* to 67*s.* 6*d.*

SODA NITRATE has advanced 1½*d.* per cwt. to 11*s.* 4½*d.* for ordinary and 11*s.* 7½*d.* for refined. Liverpool is unchanged at 11*s.* 1½*d.* and 11*s.* 4½*d.* respectively.

SOY.—The market has been cleared of the "Wochan" brand, and for less-esteemed makes from 1*s.* 3½*d.* to 1*s.* 4½*d.* per gal. is quoted.

SPERMINT OIL.—With the new American crop due shortly prices are lower at 16*s.* per lb.

SPICES.—At auction 30 barrels St. Vincent *Arrowroot* sold at 3¾*d.* *Ginger* was quiet, only 30 bags Cochin washed selling, out of 445 offered, at 33*s.* for slightly wormy. Of Jamaica, 8 barrels sold at from 48*s.* to 49*s.* for good ordinary but mouldy. *Chillies* were quiet, 110 bags Japanese being bought in at from 35*s.* to 36*s.* for dullish to fair. Of *Capsicums*, 115 packages Nyasaland sold at from 25*s.* 6*d.* to 27*s.* 6*d.* for good to fine red picked. *Cloves* sold at 7¾*d.* for six bales of Zanzibar. Privately the market is firm, but quiet, fair quality offering at 7¾*d.* to 7½*d.* (paid), and for arrival 7¾*d.* c.i.f. has been paid for October-December shipment, at which there are buyers. The heavy supply of 650 packages West Indian *Nutmegs* was offered at auction, and all sold at an advance of ¼*d.* per lb. 38 cases of Java limed were also offered and sold. Of West Indian *Mace*, 234 packages offered, and practically all sold at steady rates to 1*d.* easier, including fine bold pale at 2*s.* 8*d.* to 2*s.* 9*d.*, good pale reddish 2*s.* 6*d.*, fair to good palish 2*s.* 3*d.* to 2*s.* 5*d.*, fair to good red 2*s.* 1*d.* to 2*s.* 3*d.* Pickings and broken at 1*s.* 10*d.* to 2*s.* 1*d.* *Pepper*, at auction, met with a fair demand at steady prices, the sales including 413 bags Ceylon at from 5½*d.* to 5¾*d.* for fair heavy small, 5¾*d.* to 5½*d.* for greyish small to bold, and 5½*d.* for damages. Privately the spot price of Singapore is 5¾*d.*, and for arrival business has been done at lower prices. There are sellers of September-November shipment at 5¾*d.* Of *White pepper* at auction, 168 bags brownish Singapore were bought in at 8¾*d.*, 167 bags Muntok at 9¼*d.*, and 100 bags Ceylon at 9*d.* Privately the spot price of fair Singapore is 8¾*d.*, and fair Muntok 9¾*d.* The arrival market is dull and lower, with sellers of September-November shipment at 8¾*d.*, Muntok at 8¾*d.*, and Penang at 8*d.* c.i.f. d.w.

TARTARIC ACID remains firm at 1*s.* 1*d.* for foreign. English being nominal. 1*s.* 2*d.* is said to have been paid for English from second-hands.

TONKA-BEANS have been selling at various prices, including black Paras at from 5*s.* 6*d.* to 5*s.* 9*d.* per lb.

TURMERIC.—Sellers of Madras finger quote from 24*s.* to 26*s.* per cwt., being slightly easier. Bengal is unaltered at 25*s.* and Cochin split bulbs at 16*s.* per cwt.

WAX (BEES').—The sales in Liverpool include 82 blocks Sierra Leone at 6*l.* 18*s.* 9*d.* per cwt.

### Telephones on 'Change.

The peculiar position which the Royal Exchange occupies as a commercial resort for the drug, chemical, and oil trades is probably responsible for its lack of facilities for conducting business. Everybody knows that so far as the above trades are concerned 'Change is merely ancillary to such marts as the Baltic and the Commercial Sale-rooms, but that is no reason why the Gresham Committee, who largely control matters, should not make the resort more up to date. For several months past it has been reported that telephonic facilities were to be provided, as a result of agitation on the part of habitués of the oil section, and that the Gresham Committee have had the matter under consideration. We now understand that the delay in providing telephones is to some extent due to the dual control of the Exchange by the Mercers' Company and the City Corporation, who have not yet actually decided what is to be done.

### Heavy Chemicals.

The conditions in the heavy-chemical market continue much the same as indicated in recent reports. There is a considerable activity both in home and export business, and it is well distributed over main and miscellaneous products. More inquiries are to hand for forward delivery, but the great bulk of the business in this line has not yet been touched. Values maintain a very steady tone, but advances have not been equal to the higher costs of manufacture.

SULPHATE OF AMMONIA continues on the quiet side: Beckton, 25-per-cent. ammonia guaranteed, 14*l.*; London terms, 13*l.* 7*s.* 6*d.* to 13*l.* 10*s.*; Leith, 14*l.* 5*s.*; Liverpool, 14*l.* 5*s.*; and Hull, 14*l.* 3*s.* 9*d.* to 14*l.* 5*s.*

BENZOLS maintain a steady tone, with present nearest naked figures as follows: London, 90 per cent., 1*s.* 0¾*d.*, 50 per cent. 10*d.* to 10½*d.*; North, 11¾*d.* to 1*s.* and 9½*d.* to 10*d.*, respectively.

ALUMINA PRODUCTS.—There is a good general demand in this branch, both against contracts and on miscellaneous account. The tendency of values is distinctly towards advancement from the present unremunerative figures. Crystal alum, lump, 5*l.* 15*s.* to 6*l.* 5*s.*, and ground in bags 6*l.* 5*s.* to 6*l.* 15*s.* per ton, free on rails Lancashire or Yorkshire or f.o.b. Hull, Goole, or Liverpool. Sulphate of alumina, purest qualities and practically free of iron, are now quoted on a basis about 2*s.* 6*d.* per ton higher. Ordinary-strength quality 4*l.* 17*s.* 6*d.* to 5*l.* 7*s.* 6*d.* per ton in casks, with usual allowances for loose slabs and customary extras for the higher concentrations. Alumino ferric 52*s.* 6*s.* to 60*s.* and aluminous cake 50*s.* to 60*s.* per ton, according to quality, quantity, and destination. Hydrate of alumina, high strength, Al<sub>2</sub>O<sub>3</sub>, and purest quality, 12*l.* 10*s.* to 13*l.* 10*s.* per ton free on rails in casks. Aluminate of soda, high strength, Al<sub>2</sub>O<sub>3</sub>, and purest quality, 30*s.* to 32*s.* 6*d.* per cwt. Carbonate of alumina 30*s.* to 32*s.* 6*d.* per cwt.

VENEZUELAN CHICLE-GUM.—The Minister of Fomento, Venezuela, has given to José Patrocinio Cuéllar, of Caracas, the exclusive ten-year privilege to establish one or more plants for extracting chicle, an industry not now exploited in the country. If for one year he ceases to operate actively under this concession it lapses to the Government, and he will be obliged to make public the processes he employs to manufacture chicle.

JAVA CINCHONA.—The following is from the "Deli Courant" (per De Indische Mercur): "On July 13 a meeting of the directorate of the Association for Promoting Cinchona Cultivation was held at Batavia under the presidency of Heer Lovink, when the principal subject discussed was that the Dutch East Indian Government had decided to establish a quinine-factory, and that the private manufacturers had withdrawn their opposition to the project. The opinion generally prevails that an amalgamation of the Government and the private undertakings will follow on the basis of five cents per unit and a three years' contract. A general meeting was called for July 20 to further discuss the matter." This information is now somewhat belated, but it emphasises the fact that the Government intend to build their own quinine-factory. Up to the present we understand that no agreement has been signed between the European quinine-makers and Java planters.





### Memoranda for Correspondents.

All communications must be accompanied by the names and addresses of the writers, otherwise they cannot be dealt with. Queries by subscribers on dispensing, legal, and miscellaneous subjects connected with the business are replied to in these columns if they are considered to be of general interest.

Letters submitted for publication (if suitable) should be written on one side of the paper only. Their publication in "The Chemist and Druggist" does not imply Editorial agreement with the opinions expressed.

#### Warning.

SIR,—A man describing himself as a trade valuer and auctioneer has been offering to some of our customers parcels of patents, etc., much under cost price. His method is to send a messenger with the goods and a note stating that Messrs. R. Hovenden & Sons, Berners Street, have given their names as possible buyers, the envelope bearing the mark: "Wait Reply." We have no knowledge of and have not authorised this person or anyone else to use our name. In two cases the goods offered were refused, and we were communicated with. Moreover, the man is not known at the address he gives on his letter.

Yours faithfully,

R. HOVENDEN & SONS, LTD.

#### Copaiba.

SIR,—In his presidential address to the British Pharmaceutical Conference Sir Edward Evans stated that "balsam copaiba from South America has been found adulterated with African copaiba, sent there no doubt from America for the purpose of adulteration." We feel justified in challenging the above statement on the following grounds: Firstly, on the commercial probability. The value of cleaned, liquid African copaiba shipped *via* England to New York and thence to Venezuela or Brazil would not at any time within recent years have been below 11*d.* to 1*s.* per lb., and mostly higher, say 1*s.* 2*d.* to 1*s.* 3*d.* per lb. Shippers of copaiba from South America would be quite aware that to adulterate their genuine balsam with more than about 10 per cent. of the African balsam would inevitably lead to its easy detection by the simplest chemical and physical tests. The average value of good quality genuine copaiba in Venezuela and Colombia is about 1*s.* 4*d.* to 1*s.* 6*d.*, although during the recent season it has been higher, say 1*s.* 9*d.* to 1*s.* 11*d.* The addition, then, of 10 per cent. of African copaiba would only reduce the cost of the balsam by a very small amount, say 1*d.* per lb., and it does not appear to us likely that responsible firms would jeopardise their future trade in the article for the sake of a fractional additional profit. Apart from this, the writer made careful inquiries on the subject when last in New York and was unable to trace any shipments of African copaiba to South America. As direct importers of South American copaiba for the past twelve years, we are quite aware that in some seasons occasional parcels arrive exhibiting abnormal features, such as a lower or a higher optical rotation than the average, but we have never yet come across a direct importation which gave positive indications of adulteration with African copaiba by any known test. Up to the present it has been a maxim with the most careful buyers to make their purchases of this much-adulterated drug only from directly imported parcels in order to avoid the faked and doctored balsam so often found commercially. The adulteration, if it occurs, could presumably only be done by the shipping houses, as the balsam is collected and brought to the shipping centres only in quite small quantities by the natives, the exporters being quite few and entirely reliable and reputable concerns. We are of opinion that Sir Edward Evans will, on further investigation, find that the stated adulteration occurred subsequently and not prior to shipment from the primary market.

Faithfully yours,

HERBERT HYMAN & CO.

St. Dunstan's Buildings, London, E.C.

### Subscribers' Symposium.

For questions, answers, incidents, and interchange of opinions among "C. & D." readers.

#### The Sand-bath.

I notice in your "Corner for Students" (*C. & D.*, July 27) you could not recall that the sand-bath is specifically mentioned in the B.P. In the directions for making ung. hyd. nit. you will find that it is directed to be used.—*H. Wright* (3/6).

#### Belladonna Specimens.

*Mr. W. Spencer Turner, Ph.C.*, Willingham, Cambs, writes: "I should be much obliged if you would let it be known that I shall be pleased to give a specimen of belladonna, leaf, flower, and fruit, to anyone who cares to send me a flat box and a stamped, addressed label. The seeds of belladonna can be squeezed out of the fruit when ripe, and will germinate freely if planted."

#### Worm-eaten Furniture.

*The "Sanitas" Company, Ltd.*, Locksley Street, Limehouse, London, E., write: Observing in your last issue a paragraph dealing with this subject, will you allow us to call your attention to the fact that probably the best treatment for worm-eaten furniture is soaking the affected portions with "Sanitas-Okol," diluted with from fifty to a hundred times its own quantity of water, applied by a brush and allowed to soak in? This has proved efficacious whenever it has been used within our experience.

### Legal Queries.

Consult "The Chemists' and Druggists' Diary," 1912, pp. 435 to 456, where most legal difficulties are anticipated, before writing about your difficulty

*J. J. C.* (9/73).—It is probable that there were circumstances in the case you mention which made the proprietors of the tonic take legal action. In your case the get-up and name are dissimilar.

*W. H.* (11/73).—MEDICINE-STAMP DUTY.—The female mixture would be liable to stamp-duty on account of the recommendation that it "is very successful even in long-standing cases" and "has proved very reliable."

*F. H. R.* (12/15).—CONTRIBUTIONS UNDER NATIONAL HEALTH INSURANCE ACT.—In the case of the apprentice aged twenty who receives 10*s.* a week the contributions of employer and employee are the normal amounts, 3*d.* and 4*d.* respectively.

*E. B.* (13/16).—HEALTH-INSURANCE EXEMPTION.—You do not say what your total income is. If with your pension and what you earn as a *locum tenens* your total income is above 160*l.* per annum you are not required to be insured under the National Health Insurance Act.

*W. P. L.* (12/39).—TRADE-MARKS REGISTRATION.—The method of doing this is explained in *The Chemists' and Druggists' Diary*, p. 203. The word you mention is not likely to be accepted, as articles under that name are already registered in most classes. Perhaps you employed the name merely as an illustration.

*P. D. R.* (13/9).—"KNOWN, ADMITTED, AND APPROVED REMEDIES."—These may only be sold unstamped by a "chemist who hath served a regular apprenticeship"; this includes, according to the interpretation put upon it by the Board of Customs and Excise, all chemists and druggists on the Register and company-chemists within the meaning of the Poisons and Pharmacy Act. The company to which you refer does not appear to come within the exemption outlined above.

*J. J. H.* (13/61).—MINERAL-WATER SALTS, whether effervescing or not, are outside the charge of medicine-stamp duty. The section under which duty was formerly chargeable was repealed in 1835, and the Lamplough case in 1873 decided that the repeal was equivalent to exempting the articles referred to in the section. Natural mineral waters are not dutiable because they are not mentioned in the schedule, nor do they come under any of the designations in the general charge.

*S. K.* (11/71).—APPRENTICESHIP IN IRELAND.—It is not compulsory for an apprentice to have passed the Preliminary examination before he is articulated. Four years must, however, elapse between the time candidates pass the Preliminary examination and present themselves for the Pharmaceutical Licence examination. This regulation has the effect of compelling a young man to pass the Preliminary at or before he is seventeen, if he wishes to take the Licence examination at the minimum age of twenty-one.

### Miscellaneous Inquiries.

We do not as a rule repeat information which has been given in this section during the past twelve months, as it occupies space which can be more profitably utilised for other information. In such cases the numbers are mentioned, and if querists cannot refer to these they may obtain the numbers from the "C. & D." Office at the published prices, usually 6d.

We do not undertake to analyse and report upon proprietary articles, and when samples are sent particulars should be supplied to us as to their origin, what they are, what they are used for and how.

*T. S.* (259/29).—DOG-SHAMPOO.—The soft soap used for this should be of good quality, as excessive alkalinity is not desirable in this shampoo. The formula (*C. & D.*, October 28, 1911, index folio 664) contains carboic acid and eucalyptus oil, both of which act as deterrents to fleas.

*Omega* (2/69).—MINOR QUALIFICATION IN CANADA.—The British Minor qualification is not accepted in any of the Provinces of Canada for registration without examination. The certificates are only recognised as entitling the possessor to act as an assistant or "clerk." It is within the bounds of possibility that reciprocal arrangements may be concluded with this country, but so far local reciprocity is not even established.

*Doctor* (1/52).—"Two tablespoonfuls" being one quantity, the verb following is employed in the singular; hence it is correct to say "Two tablespoonfuls is sufficient for a dose."

*A. McK.* (259/53).—CHANGES IN SANTONIN.—The changes which santonin undergoes when exposed to light were investigated some years ago by Cannizzaro and Villavecchia. The yellow body which results from insolation is called photosantonin, but it was prepared by the last-named investigator by exposing an alcoholic solution of santonin to light, when photosantonin and an isomeric body were formed. Discoloured santonin is restored to white crystals by recrystallisation from alcohol. It is not considered that the medicinal effects of the two varieties of santonin differ.

*C. E.* (259/20).—BOOKS.—A list of books suitable for students in botany is given in this issue (index folio 300). If you are desiring a book which gives a popular account of the plants which a Minor candidate is required to recognise you would probably find John's "Flowers of the Field" suitable. For business knowledge such as is required for the Fairchild Scholarship examination *The Chemists' and Druggists' Diary*, 1906, is employed by most candidates.

*C. J. M.* (256/63).—The letters "I.S.P.&D.S.P." stand for Incorporated Society of Pharmacy and Drug-store Proprietors, which has instituted examinations. The Secretary—Mr. N. D. Vine, 5 Oxford Place, Leeds—will no doubt supply you with the syllabus and other information you desire regarding the examinations.

*A. J. C.* (9/12).—THE FALLING-OUT OF THE HAIR of which your lady customer complains is most probably due to seborrhœa. The scalp should be washed twice weekly with soap spirit (sapo moll. B.P. 4 parts, sp. vini 2 parts), and the following should be well rubbed into the roots of the hair every second day: sulphur. præcip. gr. x., ol. amygd. 3j. Constipation and anæmia should be attended to by suitable treatment.

*Naves* (13/48).—PINE INHALANT.—The following is the formula for which you ask:

Cajuput oil	...	...	...	3j.
Ether	...	...	...	3j.
Menthol	...	...	...	3j.
Eucalyptus oil	...	...	...	3j.
Pine oil	...	...	...	3j.
Terebene	...	...	...	3j.
Camphor	...	...	...	gr. XL.

Mix.

*Rcmijia* (13/12).—There is evidently too small a proportion of preservative in the cough-mixture, which causes it to ferment. Use double the amount of chloric ether, or employ chloroform-water in place of distilled water.

*Nepaul* (242/11).—(1) URTICARIA.—We presume that this is recurrent, in which case the first thing to do is to find if it can be attributed to any special article of diet. If not, see that the bowels are opened once daily, dust the parts with talc, and give 10-grain doses of calcium lactate for a short period. (2) TO ABORT A COLD such as you mention a gargle and nose-wash (to be sniffed through the nostrils, or sprayed) of resorcin 5 grains in water 1 oz., flavoured with gaultheria and thymol, sometimes answers well.

*H. H.* (4/48).—OILED SILK.—The process of preparing oiled silk is as follows: Large pieces of green silk are fastened on a wooden frame furnished with hooks and movable pegs, and there is then applied to both sides of the silk a varnish consisting of poppy oil 3 parts, copal-varnish 1 part. The drying properties of the poppy oil are increased by the usual method of boiling with litharge or adding some of the newer siccatives salts. The varnish is applied as sparsely as possible, and if necessary repeated when the first coating has dried. Sometimes a thin copal-varnish is applied as the final coating, and oiled silk finished by polishing with tripoli is not unknown.

*G. A. M.* (5/72).—WHITE LINIMENT.—The following formulæ are the two varieties for which you inquire:

A.		emulsification by the addition of a little water occasionally; then add the ammonia solution, and when incorporated pour the mixture into a Winchester quart bottle, and having ascertained how much it measures add the acetic acid mixed with as much water as will make the whole measure 80 oz.
Eggs	... xij.	
Soft soap	... 3vj.	
Oil of turpentine	... 5xx.	
Strong solution of ammonia	... 5v.	
Acetic acid	... 5iv.	
Camphor	... 5vj.	
Spirit	... 5viij.	
Oil of amber or origanum	... 5iv.	
Water to	... Oiv.	

Rub up the soap with 10 oz. of water, added gradually so as to produce a smooth jelly; then mix the eggs, previously switched, with this; next the spirit with the camphor dissolved in it. Mix the turpentine and oil of amber, add gradually to the egg-mixture, stirring assiduously all the while and aiding

B.  
Strong solution of ammonia,  
Oil of turpentine,  
Soap liniment, of each ... 5iij.  
Acetic acid ... 5ij. 5ij.  
Water to make ... 5xx.  
Add the ingredients in above order and shake well after each addition.

*J. O. E.* (257/50).—ACIDITY OF STOMACH AFTER MEALS.—Take small meals with a minimum of starch and vegetables, ensure mental and bodily rest for at least half an hour after meals, and at the onset of the untoward symptom, or just before it usually comes on, give a draught containing sodium bicarb. 3ss., tr. bellad. ʒx.

*M. P. S.* (6/11).—BOOKS ON CHIROPODY.—These were enumerated in the *C. & D.*, April 27, index folio 629. The information given is practical, but personal instruction, if it can be obtained, is a "royal" road to the subject.

## Retrospect of Fifty Years Ago.

Reprinted from "The Chemist and Druggist," August 15, 1862.

### Trade Report.

In chemicals there has been rather more business transacted during the month, and in many instances prices have slightly advanced. Sales of Tartaric Acid have been freely made at 1s. 7½d. to 1s. 7¾d., and now 1s. 8d. per lb. is demanded for the best English. A few sales in Oxalic Acid have taken place at 8½d. to 9d., according to quality. Bichromate continues dull at 7¾d. to 8d. Yellow Prussiate remains nominal at 1s. A better business has been done in Citric Acid, and the price is firm at 1s. 7¾d. to 1s. 8d. Large sales have been made in Chlorate of Potass at 1s. 0½d. to 1s. 0¾d., and now there are few sellers at 1s. 3d. Several sales have been made in Iodine at 5½d. to 6d., according to quality. English Refined Camphor has been sold at 4s. to 4s. 4d. per lb., and rough has advanced to 17l. 10s. to 17l. 15s. Bicarbonate of Soda is more in request; last sales made at 13s. to 13s. 6d. per cwt. Some large parcels of Soda Ash have been taken at 2s. ex ship. More doing in Soda Crystals, and the price is now firm at 4l. 12s. 6d. per ton, ex ship. Bleaching Powder remains dull at 9s. 6d. to 10s. A few sales in Flour of Brimstone have been made at 14s. for the best, and 15s. 6d. for inferior. More doing in Sulphate of Copper at 31s. 6d. to 32s. Sal Ammonia is steady, firsts at 38s., and seconds at 36s. Sulphate of Ammonia is quiet at 14s. 6d. to 15s. Cream of Tartar is easier, sales made lastly at 125s. Saltpetre is much lower, and market dull at 42s. to 43s. cash for refined f.o.b., according to make. Turpentine has fluctuated between 120s. and 115s. for American, now the price is steady at 115s., and French 110s. to 112s. Sales have been made in crude Petroleum at 13s. to 13s. 6d., and refined 2s. per gallon. Canada Pot and Pearl Ashes are quiet at 36s. to 36s. 6d. A good business has been done in Linseed Oil at 41s. to 41s. 6d. Rape Oil is quieter.



# PEARS

SOAPMAKERS

BY

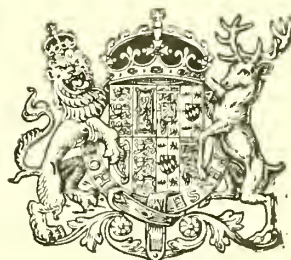
APPOINTMENT  
TO THEIR  
MAJESTIES

THE

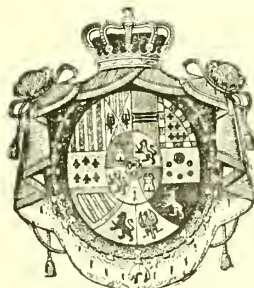
**KING & QUEEN.**



KING GEORGE V.



QUEEN MARY.



Also to the  
KING & QUEEN  
OF  
**SPAIN.**



THE LATE KING EDWARD VII.



QUEEN ALEXANDRA.

**AWARDED 22 PRIZE MEDALS.**

**PRICE LIST & SHOWCARDS ON APPLICATION.**

HEAD OFFICE:—

**LONDON—71-75 New Oxford Street—LONDON.**

DEPÔTS:—

**NEW YORK—417-421 Canal Street—NEW YORK.**

**CHICAGO—232-4 Randolph Street—CHICAGO.**

**MELBOURNE—495-497 Bourke Street—MELBOURNE.**

# HUBBUCK'S PURE OXIDE OF ZINC.

Sold by the following Wholesale Druggists in Boxes of 7 lbs. and 14 lbs. stamped by the Manufacturers; also in 1-lb. Boxes and 1-lb. Glass Bottles:—

Allen & Hanbury's (Lim.).  
Baiss Bros. & Stevenson  
(Lim.)

Barron, Harveys & Co.  
Bell, Jno., & Co.  
Bleasdale (Lim.) [(Lim.).  
Boots' Pure Drug Co.  
Burgeyne, Burdidge &  
Butler & Crispe [Co.  
Clay, Dod & Co.

Cockburn & Co. (Lim).  
Corbyn, Stacey & Co.  
Dakin Brothers.  
Davey Hill & Co.  
Duncan, Flockhart & Co.  
Evans, Gadd & Co.  
Evans Sons Lescher &  
Webb (Lim.).

Ferris & Co.  
Gale & Co.  
Glasgow Apothecaries' Co.  
Glasgow New Apothecaries' Co.  
Goodall, Backhouse & Co.  
Harker, Stagg & Morgan.  
Harkness, Beaumont &  
Co.  
Hatricks, W. & R., & Co.  
Hearon, Squire & Francis.

Hirst, Brooke & Hirst.  
Hodgkinson, Prestons &  
King.

Hodgkinsons, Clarke &  
Ward.

Horner & Sons.  
Huskisson, H. O., & Co.  
Imman's Stores (of Edin-  
boro').

Ismay, John, & Sons.  
Lofthouse & Saltmer.  
Oldfield, Pattinson & Co.  
Pinkerton, Gibson & Co.  
Raines, Clark & Co.  
Raines & Co.  
Rankin & Borland.  
Siversides, R. B. G.  
Southall Bros. & Barclay.  
Sumner, R. & Co.

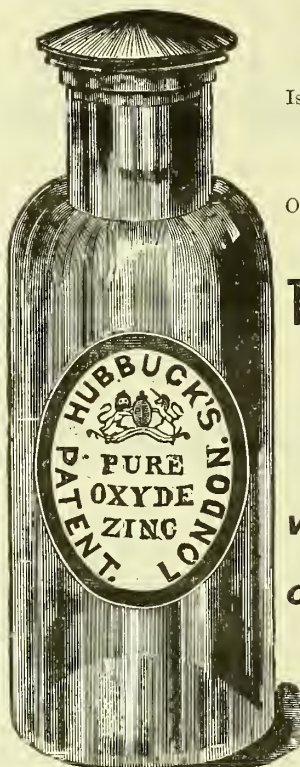
Taylor, James.  
Thompson, John (Lim.).  
Willows, Francis, Butler  
& Thompson.

Woolley, Jas., Sons & Co.  
(Lim.).

Wright, Layman & Um-  
ney (Lim.).  
Wyleys (Lim.).

Barry, E. J., New York.  
Carter, Carter & Kilham,  
Boston.  
Finlay & Branswig, New  
Orleans.  
Langley & Michaels, San  
Francisco.  
Lehn & Fink, New  
York.

McKesson & Robbins, New  
York.  
Muth Brothers & Co.,  
Baltimore.  
Roller & Shoemaker,  
Philadelphia.  
Schieffelin, W. H., & Co.,  
New York.  
Shoemaker, R. & Co.,  
Philadelphia.



## HUBBUCK'S PURE OXIDE

Is made by Sublimation, and is Warranted to contain upwards of

**99 PER CENT.**

Of Pure Oxide; in fact the impurities are not traceable.

**THOS. HUBBUCK & SON,**  
(Established 1765). **LTD.**

**24 LIME STREET,  
LONDON, E.C.**

Manufacturers of—

**White Lead, White Zinc,  
Paints, Oils,  
Colours, Varnishes, &c.**

AUSTRALIAN OFFICE—

**34 QUEEN STREET, MELBOURNE.**

The Manufacturers supply their Pure Oxide Wholesale only, in quantities of not less than 2 cwt.

**APONAL "ZIMMER'S,"** HYPNOTIC, in powder and 7½-grain tablets.

**EUQUININE, "ZIMMER'S,"** the well-known "tasteless quinine," powder and tablets.

**VALIDOL, "ZIMMER'S,"** antihysterical, antineurasthenic, estorative, stomachic, seasickness remedy. Liquid, tablets, pearls, &c.

**ALLOSAN, "ZIMMER'S,"** powder and tablets, antigonorrhoeic.

**ESTORAL, "ZIMMER'S,"** powder; Estoral Snuff; boxes with glass tube. Rapid cure of common cold, &c.

**Aristochin, Bromvalidol Tablets, Dymal, Eunatrol, Eustenine,  
Lygosin-sodium, Rheumatin, Saloquinine, Urosin.**

Stocked by Sole Agents for U.K.: **WIDENMANN, BROICHER & CO., 1 Fenchurch Av., LONDON, E.C.**

WRITE FOR PRICE LIST AND PARTICULARS.

## J. PARKINSON-WORSWICK MOSCOW, Twerskaja 24 (RUSSIA)

COMMISSION MERCHANT, EXPORTER OF  
RUSSIAN CRUDE DRUGS, RAW PRODUCTS, &c.

Lycopodium, Ergot of Rye, Cantharides,  
Ant's Eggs, Musc. Cabard. Agaricus, Dried  
Berries, Calamus, Cortex Frangulæ, Ani-  
seed, Coriander, Quinceseed, Forest  
Seeds, Ammoniacum, Galbanum, &c.

## We are Large Producers of BENZOATE OF SODA AND BENZOIC ACID

Buyers please apply for particulars to  
**No. 209 10, Office of this Paper.**



# EVANS'

## Bacteriological Laboratories.

THESE are situated at the Farm Station, Crofton Lodge, Higher Runcorn, Cheshire, which have been established for the manufacture of Vaccines, Sera, and general Bacteriological work. The Laboratories are under the superintendence of H. E. Annett, M.D., D.P.H. (late Professor of Comparative Pathology at the University of Liverpool), whose services we have secured for the management of this branch of our business.

The Laboratories are fitted up with the most recent scientific appliances and apparatus for the production, on a large scale, of Vaccines, Sera, etc., and also for Bacteriological Research Work, which is carried on by Dr. Annett and his assistants.

List quoting Fees for Bacteriological Examinations may be had on application.

### PRODUCTS.

**Vaccine Lymph; Antidiphtheritic Serum;  
Plague Vaccine and Serum.**

**Normal Horse Serum.**

**Tuberculins, Human and Veterinary.**

**Staphylococcic and other Bacterial Vaccines.**

**Sterile Culture Media (Various).**

**Anthrax and Black Leg Vaccines.**

**The "Liverpool" Virus for Rats and Mice.**

*Full detailed Price List, etc., and Literature, etc., for distribution, on application.*

Urgent orders for Vaccines and Sera outside our regular business hours may be sent direct to Crofton Lodge, Higher Runcorn, Cheshire.

Telephone No. : RUNCORN 70.

Telegrams: "SEROVACCINE RUNCORN."

# EVANS SONS LESCHER & WEBB

LIVERPOOL and LONDON. LIMITED,

# CHEMICALS

---

IN addition to those we manufacture, all we sell under our own name are tested by our analysts in our Laboratories, hence purity according to description can be guaranteed.

*We can offer all heavy Chemicals*

*:: to advantage in quantity ::*

PRICES ON APPLICATION.

---

**EVANS SONS LESCHER & WEBB**  
**LIVERPOOL and LONDON.** <sup>LTD.</sup>

NEW YORK, U.S.A.



# • PHYSIOLOGICAL • STANDARDISATION.

---

---

Renewed emphasis has again been laid on the necessity for physiological estimation of those drugs and their preparations for which there are no definite chemical standards.

Further, that the so-called active principles which have been isolated and are marketed under fancy names have not the same physiological effect as the B.P. preparations of the whole drugs. And also that the physiological effects cannot be guaranteed after two years or possibly after one year.

We offer the preparations of Digitalis, Ergot, Squills and Strophanthus physiologically tested and freshly prepared. The date of issue is marked on each bottle.

---

---

Evans Sons Lescher & Webb Ltd.,  
LIVERPOOL and LONDON.

# PRECIPITATED CRETA PRÆCIP. CHALK.

"Sturge's  
Chalk."



*Lightest  
on the Market.*

All grades from the **LIGHTEST** to **VERY DENSE**.

MANUFACTURED BY

**JOHN & E. STURGE, Ltd., 18 Wheeleys Lane, BIRMINGHAM.**

*Agents :*

*THE NATIONAL ANILINE & CHEMICAL CO., 100 William St., NEW YORK.*

*ALPHONSE RUCH, 63 Rue des Archives, PARIS.*

Also Manufacturers of—

**CITRIC ACID, BICARBONATE OF POTASH, ROCHELLE SALTS and pulv. SEIDLITZ, FLUID MAGNESIA, and "CITRATE OF MAGNESIA," and other Effervescent Saline Preparations.**

*Telegrams: "Sturgeon Birmingham."*

## Chloroform Pure B.P.

**In Two-ounce Sealed  
Amber-coloured Glass Tubes**



In accordance with the newly issued  
regulations of the Board of Trade  
under Merchant Shipping Act.

**EACH TUBE IN CARDBOARD CASE.**

QUOTATIONS ON APPLICATION.

## J. F. Macfarlan & Co.,

*Manufacturing Chemists, EDINBURGH and LONDON.*



# Thyroprotein Beebe

## A Preparation of the Active Principle of the Thyroid Gland

THYROPROTEIN (BEEBE) consists of certain proteids of normal thyroid glands, extracted, purified, assayed and adjusted to a standard content of 0.33 per cent. of iodine. It is diluted with the necessary amount of lactose to make two-grain tablets, which are supplied in three denominations, containing, respectively, 1, 2 and 5 per cent. of Thyroprotein.

The 1- and 2-per-cent. tablets are used in the treatment of various types of goitre, the average dose being one tablet thrice daily. The 5-per-cent. tablets are intended for administration in metabolic disorders, as skin diseases, affections of the joints, myxœdema and cretinism.

THYROPROTEIN (BEEBE) has been employed for more than two years by a number of experienced clinicians in a wide variety of pathological conditions. It is offered to the medical profession with full confidence that it will satisfactorily displace the crude and less certain thyroid preparations heretofore available.

*Supplied in 2-grain tablets, in bottles of 50, at 4.0 per bottle.  
Three Strengths: 1%, 2% and 5% of Thyroprotein.*

Further particulars will be supplied on request by

**PARKE, DAVIS & Co.,** 50-54 BEAK ST., **LONDON, W.**  
REGENT ST.,

Telegraphic and Cable Address: "Cascara London." Telephone: 8636 Gerrard (four lines).

# FELLOWS' SYRUP of HYPOPHOSPHITES

A uniform result may always be confidently  
expected from this faithfully-prepared and  
long-tried preparation

Reject < Worthless Substitutes  
Preparations "Just as good"

## ICHTHYOL

**WE WARN BUYERS** that fraudulent and ineffective articles purporting to be Ichthyol, or "equal to Ichthyol," are offered by unscrupulous dealers.

**GENUINE ICHTHYOL**, as it has been studied and is wanted by the Medical Profession and supplied all the time to the Trade, is delivered by us in tins and bottles under our special label with our name, and can be obtained in original packing from any wholesale druggist in the U.K. The use of our Registered Trade Marks "ICHTHYOL" and "ICHTHYOLATE" for any other product means deception and dishonesty, and will entail their penalties.

**PHYSICIANS, CHEMISTS, and DRUGGISTS** are requested to report to us all cases where imitation products are suspected.

**Ichthyol-Gesellschaft,  
Cordes, Hermann & Co.,  
HAMBURG.**



**When you see this Illustration**

in the Press let it be a reminder to

**Examine your stock of**

# SARGOL

**WHOLESALE PRICES.**

43/3 per doz. ...

24/- " ...

Attractive Showcard with 3 doz. lots.

**RETAIL PRICES.**

4/6

2/6

Steadily Advertised.

Steadily in Demand.

**SARGOL to the CHEMIST means  
QUICK SALES AND LARGE PROFITS.**

**STOCK IT TO-DAY.**

**THE SARGOL CO., 124 Holborn, LONDON, E.C.**



## TRADE MARKS ACT, 1905.

W. WOODWARD, LIMITED  
the Proprietors of

## WOODWARD'S GRIPE WATER

give notice that they possess the exclusive right to the use of the words

## GRIPE WATER

(being one of their Trade Marks) whether employed alone or with other words, and that this right will be strictly enforced against every person manufacturing or offering for sale goods described as **GRIPE WATER** which are not manufactured by

**W. WOODWARD, LIMITED,**  
NOTTINGHAM, ENGLAND.

## MALT,

## MALT & OIL, COD LIVER OIL EMULSION

That does NOT Separate.

May we book your  
Season's Contract ?

Send at once for our NEW PRICE LIST.

## BOULTON MACRO LTD.

CRAYFORD MILLS,  
STRATFORD.



GOLD MEDAL, Cape Town International Exhibition, 1904-5.

## "MIST. PEPSINÆ CO. C. BISMUTHO."

(HEWLETT'S.)

### THE ORIGINAL PREPARATION.

Many pharmacists have assured us that even when the name "HEWLETT'S" is not appended to the above title they invariably dispense HEWLETT'S preparation, as they know from experience that it is the best, that it keeps indefinitely, and universally gives satisfaction, whilst imitation preparations vary so considerably, not only from the original, but from each other, that patients notice the difference and complain.

Price 11s. per lb., packed, for dispensing only, in 10, 22, 40, and 90 oz. Bottles.

INTRODUCED AND PREPARED ONLY BY

**C. J. HEWLETT & SON, Ltd.,** Wholesale Druggists, 35 to 42 Charlotte St., LONDON, E.C.

## NOTICE. MILK EMULSION.

THE name "Milk Emulsion" is our Trade Mark for an Emulsion of Cod Liver Oil with Hypophosphites, and designates specifically that it is our preparation. Our Emulsion is known in commerce as "Milk Emulsion," and when "Milk Emulsion" is ordered, people expect to receive FAULDING'S MILK EMULSION. We hereby give notice that no other persons can use the same name on their labels, wrappers or advertisements without infringing our legal rights.

"Milk Emulsion" is sold in Bottles only, Wholesale, by—

**F. H. FAULDING & CO.**

54 Great Tower Street, London, E.C.

54 King William Street, Adelaide, South Australia.

341-3 Murray Street, Perth, Western Australia.

46 O'Connell Street, Sydney, New South Wales.

## POINTET & CIRARD

2 Rue Elzévir, PARIS.

Paris 1900: Gold Medal. Milan 1906: Diploma of Honour.

LONDON 1908 } "GRAND PRIX"  
BRUSSELS 1910 }

MANUFACTURERS OF

### Quinine Salts, Glycerophosphates,

BIPHOSPHATES, LACTOPHOSPHATES, CITRATES,  
GLYCYRRHIZINE, PROTEINATE OF SILVER,  
QUININE WITHOUT BITTER TASTE FOR  
EXPORT, ALCALOIDES, &c.  
SPÉCIFIQUE BEJEAN, THYROIDINE.

Turin 1911 "Hors Concours" Member of Jury.

:: The NEW PURE LIQUORICE Juice ::

**APOLLO.**

The makers of the well-known brands of Pure Block Juices "V.B." and "B.X.," who are the largest manufacturers of Liquorice in the World, beg to notify the Trade that they now manufacture a high-class **PURE STICK JUICE** which they have placed on the market under their registered brand "**APOLLO.**"

The same guarantee of absolute Purity, which for the past sixty years has been given with their Block Juices, equally applies to their new stick "**APOLLO.**"

Can be obtained of all the leading wholesale Houses.

**H. E. KERSHAW, Ltd.**

131 Curtain Rd., LONDON, E.C.

IMPORTERS OF

**SHELLAC**

Of all kinds.

Manufacturers of

**WHITE SHELLAC**

There is £ S. D. in  
**SENIER'S**  
**STRAW HAT CLEANER**

(Packed in Envelopes).  
**CLEAR 100 PER CENT. PROFIT.**  
Cost ALL BRITISH MAKE. Sells at  
**3/-** for three dozen **2d.** Envelopes **6/-**  
And THEY SELL. Sample Order, 3 doz.,  
with Showcard, post free **3/-**  
For quick sales make a **DISPLAY OF**

**SENIER'S**  
**STRAW HAT BALL.**

Each ball in a nobby little hat, retailing **3d.** each, **24/-**  
per gross, with attractive Showcards. Sells at sight.  
All goods on P.A.T.A.  
**ALFRED SENIER & CO., 195 SEVEN SISTERS ROAD,**  
LONDON, N.



**PATTINSON'S**  
**MAGNESIA**

CARBONATE, CALCINED AND FLUID.

THE WASHINGTON CHEMICAL CO., LIM., WASHINGTON, COUNTY DURHAM, ENGLAND.

London Agents—Messrs. CLIFFORD CHRISTOPHERSON & CO., 21 Mincing Lane, London, E.C.

**BEATSON, CLARK & CO., LTD.**

ESTABLISHED 1751.

HIGH CLASS DISPENSING BOTTLES, MEDICAL GLASS MANUFACTURERS,  
VIALS, POISONS, &c. GRAD. MEASURES,  
RECESS AND GOLD LABELLED SHOP ROUNDS. **ROTHERHAM, YORKS.**



# POTTER'S ASTHMA CURE

**ADVERTISED EVERYWHERE**

**1/- TINS (P.A.T.A. 10½d.) 8/6 doz. net.**

**Potter & Clarke**  
60-64 ARTILLERY LANE LTD.  
LONDON E.

**WRIGLEY'S**  
**SPEARMINT** →**WRIGLEY'S**  
**SPEARMINT** →**WRIGLEY'S**  
**SPEARMINT** →

# The Only Largely Advertised Chewing Gum in England is

RETAILS  
**2½d.**  
PER PACKETRETAILS  
**2½d.**  
PER PACKET

Chemists all over England are stocking and selling **WRIGLEY'S SPEARMINT** → in great quantities. Are you?

You will find **WRIGLEY'S SPEARMINT** → Pepsin Gum a most profitable side line. In our advertising we are telling the public what **WRIGLEY'S SPEARMINT** → really is; expounding its benefit to the teeth and digestion, its soothing action upon the nerves, &c. Also we are telling exactly what it is made of—which has never been done for Chewing Gum before.

**Costs  
You  
2/3<sup>d</sup> per  
Box.**

**WRIGLEY'S** **SPEARMINT** →  
sells at sight.

Stocked by Butler & Crisp;  
Sangers; May, Roberts; John  
Thompson, and all wholesalers.

**WRIGLEY'S, LTD.**  
164 Piccadilly, London, W.

**Sells  
Quickly  
at  
4/2<sup>d</sup>**

**WRIGLEY'S**  
**SPEARMINT** →**WRIGLEY'S**  
**SPEARMINT** →**WRIGLEY'S**  
**SPEARMINT** →



## PRICES ISSUED WEEKLY.

Original Packages can generally be supplied at the Current Prices quoted in the Trade Report of this Paper on Terms as below.

- \*Acet. Ipecac, B.P., 7 lbs. @ 1/5 lb.  
\*Acid. Scilla, P.B., 7 lbs. @ 3d. lb.  
\*Acid. Acet. Glacial, 99%, Carboys, 160 lbs. @ 4½d. lb.; 12 6-lb. bots. @ 7d. lb.; 6 lbs. @ 8d. lb.  
,, Acetylo-Salicyl., 56 lbs. @ 2/4 lb.; 7 lbs. @ 2/7 lb.; 1 lb. @ 2/9 lb.  
,, Diethylbarbituric, 16 oz. @ 21/6 lb.; 1 oz. @ 1/10 oz.  
\*Hydrobrom. dil. B.P., 6 lbs. @ 7d. lb.  
\*Hydrocyan, P.B., 6 lbs. @ 1/1 lb.; 1 lb. @ 1/4 lb.; 36 1-oz. Vials @ 3/6 doz.  
\*Phosp. Dil. B.P., 7 lbs. @ 4½d. lb.  
\*Salicyl. pulv., 7 lbs. @ 1/2 lb.; phys. pure, 1 lb @ 3/1 lb.  
,, Tart. cryst. or pulv. B.P., 1885, 1 cwt. @ 1/1 lb.; 7 lbs @ 1/2 lb.; parv. ¼d. lb. extra.  
Aloes Barb., English ground, 28 lbs. @ 78/- cwt.; 7 lbs. @ 9d. lb.  
Ammon. Brom. P.B., 7 lbs. @ 2/2½ lb.  
Ammon. Carb. lump, 3 cwt. @ 4½d. lb.; 28 lbs. @ 5½d. lb.; 7 lbs. @ 5½d. lb.; powder, ¼d. lb. extra.  
Amylin Pulv. 10 cwt. @ 13/3 cwt.; 2½ cwt. @ 15/- cwt.; 1 cwt. @ 16/6 cwt.  
\*Aqua. Anethi Conc. 1-40, 1 lb. @ 2/11 lb.  
,, Anisi Conc. 1-40, 1 lb. @ 3/1 lb.  
,, Cinnam. Conc. 1-40, 1 lb. @ 3/4 lb.  
,, Aurant. Trip., 53 lbs. for 17/6; 6 lbs. @ 7d. lb.  
,, Aurant. Conc., 1-40, 1 lb. @ 6/1 lb.  
,, Rosæ Trip., 53 lbs. for 20/-; 6 lbs. @ 7d. lb.  
,, Rosæ Conc. 1-40 1 lb. @ 6/- lb.  
,, Samb. Trip. 53 lbs. for 23/5; 6 lbs. @ 8d. lb.  
,, Samb. Conc., 1-40, 1 lb @ 6/1 lb.  
,, Laurocerasi, 53 lbs. for 20/-; 6 lbs. @ 7d. lb.  
,, Menth. Pip. Conc., 1-40, 1 lb. @ 3/- lb.  
Bacc. Juniper, 28 lbs. @ 22/-; 7 lbs. @ 3d. lb.  
Bismuth, P.B., Carb., 7 lbs. @ 8/10 lb.; 3 lbs. @ 9/1 lb.; 1 lb. @ 9/3 lb.; subnit 1/- lb. less.  
Calci Carb. præcip. 5 cwt. @ 13/- cwt.; 1 cwt. @ 16/- cwt.; 28 lbs. at 21/- cwt.  
Camphor, English Flowers, "not artificial," 5 lbs. @ 2/- lb.; ¼ or ½ oz. 7 lbs. @ 2/- lb.  
Cetaceum, No. 1, fine white English, 64 lbs. @ 1/½ lb.; 7 lbs. @ 1/3 lb.; powder, 7 lbs. @ 1/9 lb.  
Cocaine Hydrochlor, B.P. 25 ozs. @ 6/2 oz.; 4 ozs. @ 6/7 oz.; 1 oz. @ 7/6 oz.  
Cream Tartar, 98% powder, 1 cwt. @ 88/6 cwt.; 7 lbs. @ 11d. lb.  
Cubebe, English Ground, 7 lbs. @ 2d. 1 lb.  
Eulsio Ol. Morrhuæ, 10 lbs. @ 9d. lb.  
\*Ess. Pear (artificial), Jargonelle, 5 lbs. @ 2/8 lb.; Bergamot, 3/2 lb.  
\*Ess. Pineapple, 5 lbs. @ 3/4 lb.  
,, Raspberry, 5 lbs. @ 2/2 lb.; 1 lb. @ 2/6 lb.  
,, Vanilla Beans, 5 lbs. @ 4/4 lb.; 1 lb. @ 4/7 lb.  
Exalgine (see Methy Acetanilide)  
Ext. Cascara Sag. Liq., B.P., 1 cwt. @ 1/0½ lb.; 10 lbs. @ 1/2 lb.  
\*Ext. Ergot. Liq. P.B., 5 lbs. @ 6/- lb.; 1 lb @ 6/6 lb.  
Ferri et Quinina Cit. P.B., 500 ozs. at 4½d. oz.; 100 ozs. @ 4½d. oz.; 25 ozs. @ 4½d. oz.  
Glycerin. Opt. DD., 1,260 P.B., 1 cwt. @ 94/- cwt.; 56 lbs. @ 95/- cwt.; 12 lbs. @ 1/1 lb.  
Hydrargyrum, P.B., 75-lb. bottle @ £87s. 6d.; 10 lbs. @ 2/6 lb.; 1 lb. @ 2/9 lb.; Amon., 28 lbs. @ 3/5½ lb.; c. Creta, 28 lbs. @ 1/5½ lb.; Iodid, Rub., 28 lbs. @ 9/8 lb.; Oxid. Rub., 28 lbs. @ 3/5½ lb.; Perchlor. Lump, 28 lbs. @ 2/10 lb.; Subchlor., 28 lbs., @ 3/2 lb.; Sulph. c. Sulph., 28 lbs. @ 2/11½ lb.; 7-lb. quantities 1d. lb. extra, 3 lb. quantities, 2d. lb. extra, 1 lb. quantities, 3d. lb. extra.  
Icthyol Ammon., 3 lbs. @ 10/9 lb.; 1 lb. @ 11/- lb.; chemical equivalent; Ammon. Ichthosulphonas, 7 lbs. @ 5/- lb.; 1 lb. @ 5/6 lb.  
\*Inf. Aurant. Conc., 1 to 7, 6 lbs. @ 1/3 lb.  
,, Aurant. Comp. Conc., 1 to 7, 6 lbs. @ 1/3 lb.  
,, Buchu Conc., 1 to 7, 6 lbs. @ 1/8 lb.  
,, Calumbæ Conc., 1 to 7, 6 lbs. @ 11d. lb.  
,, Caryoph. Conc., 1 to 7, 6 lbs. @ 11d. lb.  
,, Cascarilla Conc., 1 to 7, 6 lbs. @ 1/2 lb.  
,, Cinchonæ Acid, 1 to 7, 6 lbs. @ 1/7 lb.  
,, Gentianæ Co., 1 to 7, 6 lbs. @ 1/- lb.  
,, Quassia Conc., 1 to 7, 6 lbs. @ 9d. lb.  
,, Rhei Conc., 1 to 7, 6 lbs. @ 1/5 lb.  
,, Rose Acid, Conc., 1 to 7, 6 lbs. @ 1/8 lb.  
,, Senegæ Conc., 1 to 7, 6 lbs. @ 2/2 lb.  
,, Valerian Conc., 1 to 7, 6 lbs. @ 1/3 lb.  
Insect Powder, Opt. English grd., closed flowers, 28 lbs. @ 1/10 lb.; 7 lbs. @ 1/11 lb.; English Ground, ½ closed flowers, 4d. lb. less; Foreign Ground, 1 cwt. @ 80/- cwt.; 28 lbs. @ 9d. lb.  
Lin. Camph. P.B., 40 lbs. @ 10d. lb.; 9 lbs. @ 11d. lb.  
Methyl Acetanilide (Exalgine), 4 oz. @ 1/1 oz.; 1 oz. @ 1/5 oz.  
\*Mist. Sennæ Comp. B.P., 20 lbs. @ 6½d. lb.; 6 lbs. @ 7½ lb.  
Morphinæ Acet. Hydrochlor. or Sulph., Pulv. B.P., 25 oz. @ 9/10 oz.; 16 oz. @ 10/- oz.; 8 oz. @ 10/10 lb.; 1 oz. @ 11/3 oz.; Pur. Præcip. Bimcarbonate or Tart. 1 oz. @ 14/- oz.  
Naphthalene Candles or Balls, 1 cwt. @ 12/6 cwt.; 56 lbs. @ 14/6 cwt.; 28 lbs. @ 16/- cwt.  
Ol. Caryoph. Ang., B.P., 9 lbs. @ 4/9 lb.; 4½ lbs. @ 4/11 lb.  
Ol. Juniperi Bacæ., B.P., 4½ lbs. @ 3/6 lb.; 1 lb. @ 3/10 lb.; Ligne Exot., 1 cwt. @ 1/2 lb.; 28 lbs. @ 1/4 lb.; 9 lbs. @ 1/5 lb.  
Ol. Olivæ P.B., good yellow, guaranteed pure, 45 gall. Barrels @ 4/5½ gall.; 2 gall. tins @ 5/3 gall.  
Ol. Origan Rub. Com. 28 lbs. @ 1/7 lb.; 9 lbs. @ 1/9 lb.  
Opium Turc. B.P., 14 lbs. @ 22/- lb.; 3 lbs. @ 22/9 lb.; 1 lb. @ 23/6 lb.; powder, 6d. lb. extra.  
Papain, 1-80, 1 lb. @ 18/6 lb.; 1 oz. @ 1/7 oz.; Paraffinum Durum B.P., 2 cwt. @ 2½d. lb.; 1 cwt. @ 3½d. lb.; 56 lbs. @ 3½d. lb.; 7 lbs. @ 4½d. lb.; Mollæ Flav., B.P., 3½ cwt. @ 1/6 cwt.; 1 cwt. @ 25/- cwt.; 28 lbs. @ 3½d. lb.; 7 lbs. @ 4½d. lb.; Alb. B.P., 3½ cwt. @ 55/- cwt.; 28 lbs. @ 7d. lb.  
Paraldehyde, B.P., 7 lbs. @ 2/1 lb.; 1 lb. @ 2/3 lb.  
Pepsin, B.P., 10 lbs. @ 9/4 lb.; 1 lb. @ 10/- lb.  
Phenacetin, P.B., pulv., 1 cwt. @ 2/8 lb.; 7 lbs. @ 2/10 lb.; 1 lb. @ 3/- lb.  
Phenazone, P.B., 7 lbs. @ 6/11 lb.; 1 lb. @ 7/6 lb.  
Phenolphthalein, 7 lbs. @ 5/6 lb.; 1 lb. @ 6/- lb.  
Pix. Burgund, Druggists', 1½ cwt. @ 25/6 cwt.; 7 lbs. @ 4½ lb.  
Plumbi Acetas, Druggists', 1 cwt. @ 34/6 cwt.; 7 lbs. @ 5d. lb.; Powder, 1½d. lb. extra.  
Podophyli Resina, P.B., 1 lb. @ 10/- lb.  
Potassa Caustica Sticks, P.B., 28 lbs. @ 10d. lb. 6-lb. Bots. @ 11d. lb.  
Potas. Acetas. Gran. P.B., 28 lbs. @ 1/- lb.; 7 lbs. @ 1/1 lb.  
Potass. Bromid. P.B., 1 cwt. @ 1/7 lb.; 28 lbs. @ 1/7½ lb.; 7 lbs. @ 1/9 lb.  
Potass. Permang., Cryst., 1 cwt. @ 39/- cwt.; 7 lbs. @ 5d. lb.; large cryst., 7 lbs. @ 6d. lb.  
Rad. Ipecac. Rio., 7 lbs. @ 9/6; 1 lb. @ 10/- lb.; Rad. Jalap. English Ground, 28 lbs. @ 1/10 lb.; 7 lbs. @ 1/11 lb.  
Rad. Rhei, E. 1., English Ground, 1 cwt. @ 1/4 lb.; 28 lbs. @ 1/6 lb.; 7 lbs. @ 1/7½ lb.  
Saffron Valentinia, B.P., 7 lbs. @ 46/-; 1 lb. @ 47/6 lb.; 1 oz. @ 3/- oz.  
Sal. Acetos., 1 cwt. @ 5d. lb.; 56 lbs. @ 5½d. lb.; 7 lbs. @ 6½d. lb.  
Salcitra, B.P., 1 lb. @ 16/6 lb.  
Salol, B.P., 7 lbs. @ 2/3 lb.; 1 lb. @ 2/6 lb.  
Sang. Draconis pulv., English ground, 1 cwt. @ 1/10½ lb.; 7 lbs. @ 2/0½ lb.
- Sapo Cast. Alb., 10 cwt. @ 25/- cwt.; 2 cwt. @ 26/- cwt.; 7 lbs. @ 3½d. lb.; pulv., 1 cwt. @ 65/- cwt.; 56 lbs. @ 68/- cwt.; 7 lbs. @ 8d. lb.; Animal pulv., 1 cwt. @ 67/- cwt.; 56 lbs. @ 70/- cwt.; 7 lbs. @ 9d. lb.  
Soda Cit. B.P., 3 lbs. @ 1/11 lb.  
Soda Salicyl. Pulv., 7 lbs. @ 1/6 lb.; phys. pur., 28 lbs. @ 2/3 lb.; 1 lb. @ 2/6 lb.  
Sodii Bromid. P.B.; 7 lbs. @ 2/1½ lb.  
Strychnina cryst. B.P., 25 ozs. @ 2/2 oz.; 1 oz. @ 2/6 oz.; Hydrochlor. and Sulphate, 2d. oz. less.  
\*Syr. Aurant. P.B., 7 lbs. @ 9½d. lb.  
,, Easton, B.P., 7 lbs. @ 1/0½ lb.  
,, Ferri Iodid. P.B., 7 lbs. @ 1/3½ lb.  
,, Ferri Phosphat. Co., 7 lbs. @ 5½d. lb.  
,, Hypophosph. Co. B.P.C., 7 lbs. @ 9½d. lb.  
,, Pruni Virg. B.P., 8 lbs. @ 7½d. lb.  
,, Rhamni, 7 lbs. @ 10½d. lb.  
,, Rhei P.B., 7 lbs. @ 8d. lb.  
,, Scillæ P.B., 7 lbs. @ 5d. lb.  
,, Sennæ P.B., 7 lbs. @ 8½d. lb.  
,, Tolut. P.B., 7 lbs. @ 7½d. lb.  
Tinct. Aurantii Recens, B.P., 5 lbs. @ 3/6 lb.; bond, 8½d.  
\*Tinct. Belladon., B.P., 5 lbs. @ 2/11 lb.; bond, 6½d.  
\*Tinct. Benzoini Comp., P.B., 5 lbs. @ 3/5 lb.; bond, 8½d.  
\*Tinct. Camph. Comp. P.B., 5 lbs. @ 2/5 lb.; bond, 6½d.  
\*Tinct. Cantharidis, P.B., 5 lbs. @ 3/9 lb.; bond, 6d. lb.  
\*Tinct. Capsici, B.P., 5 lbs. @ 3/3 lb.; bond, 6d. lb.  
\*Tinct. Card. Comp., P.B., 5 lbs. @ 2/6 lb.; bond, 6½d. lb.  
\*Tinct. Catechu, P.B., 5 lbs. @ 2/8 lb.; bond, 7½d. lb.  
\*Tinct. Chlorof. c. Morph., B.P., 1885, 5 lbs. @ 2/- lb.; bond, 1/5½ lb.  
\*Tinct. Cinchon. Comp., B.P., 5 lbs. @ 3/5 lb.; bond, 1/0½ lb.  
\*Tinct. Cinchon. Rub., P.B., 5 lbs. @ 3/- lb.; bond, 10d. lb.  
\*Tinct. Digitalis, B.P., 5 lbs. @ 2/8 lb.; bond, 6½d. lb.  
\*Tinct. Gelsem. B.P., 5 lbs. @ 2/10 lb.; bond, 6½d. lb.  
\*Tinct. Gentianæ Comp., B.P., 5 lbs. @ 1/11½ lb.; bond, 6½d. lb.  
\*Tinct. Hyoscyami, B.P., 5 lbs. @ 2/5 lb.; bond, 6½d. lb.  
\*Tinct. Iodi, B.P., 5 lbs. @ 4/- lb.; bond, 1/2½ lb.; decolor. 5 lbs. @ 4/4 lb.; bond, 1/1½ lb.  
\*Tinct. Lavandulæ Comp., B.P., 5 lbs. @ 3/10 lb.; bond, 7½d. lb.  
\*Tinct. Myrræ, B.P., 5 lbs. @ 3/9 lb.; bond, 9½d. lb.  
\*Tinct. Nucis Vom., B.P., 5 lbs. @ 2/10 lb.; bond, 6d. lb.  
\*Tinct. Opii, B.P., 5 lbs. @ 3/8 lb.; bond, 2/6 lb.  
\*Tinct. Opii Amon., B.P., 5 lbs. @ 3/9 lb.; bond, 2/7 lb.  
\*Tinct. Opii Aquos., 5 lbs. @ 2/6 lb.  
\*Tinct. Quinæ Amm., B.P., 5 lbs. @ 2/6 lb.; bond, 11d. lb.  
\*Tinct. Rhei Co., B.P., 5 lbs. @ 2/2 lb.; bond 8d. lb.  
\*Tinct. Scillæ, B.P., 5 lbs. @ 2/6 lb.; bond, 7½d. lb.  
\*Tinct. Senegæ, P.B., 5 lbs. @ 3/1 lb.; bond, 1 3½ lb.  
\*Tinct. Strophantib., P.B., 5 lbs. @ 3/5 lb.; bond, 8½d. lb.  
\*Tinct. Valerianæ, 5 lbs. @ 2/8 lb.; bond, 6d. lb.  
\*Tinct. Valerianæ Ammon., P.B., 5 lbs. @ 3/1 lb.; bond, 8½d. lb.  
\*Tinct. Zingib., P.B., 5 lbs. @ 4/- lb.; bond, 6½d. lb.  
\*Tinct. Zingib. Fortior. 5 lbs. @ 4/3 lb.; bond, 10½d. lb.  
Treacle (Black), Casks about 5½ gross @ 42/- per cask; 24 lbs. @ 2d. lb.  
Turpentine (Best American), 1 gal. tins @ 3/10 cask; Venice, Genuine, 40 lbs. @ 1/4½ lb.; 9 lbs. @ 1/7 lb.

\*Minimum quantity at these prices: Home Trade, 3 Winchester Quarts assorted; Export, 12 Winchester Quarts assorted.

NOTE.—Only Terms Net Cash with order without discount, or orders accepted through London Merchants or Bankers.  
Goods carriage forward; all packages free; Export cases extra.

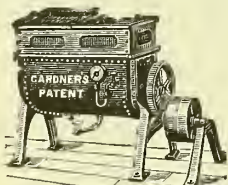
ALLIANCE DRUG &amp; CHEMICAL CO., LONDON.

Office: 34 LEADENHALL STREET.

KINDLY DETACH THIS SHEET AND PLACE IT IN YOUR BUYING BOOK.

**GARDNER'S PATENT**  
**"RAPID" SIFTERS & MIXERS****OVER 3-700** working inAlmost Every Trade where  
POWDERS are sifted and  
Mixed and Lumps Re-  
duced, all being done at  
one operation and without  
loss by dust.**FOR HAND OR POWER.**

From 55/- to £90.

**CATALOGUES FREE.****WM. GARDNER & SONS, Engineers, GLOUCESTER.**

IMPORTERS OF

**GUMS & WAXES**

of all descriptions.

**Petroleum Jelly, B.P.**

American Manufacture. Yellow &amp; White.

**INQUIRIES ESTEEMED.****W. M. KIDSTON & CO., 29 Mincing Lane,  
LONDON, E.C.**Telephone No. : 12793 Central.  
Telegrams : "KIDSTONISM LONDON."**NEPENTHE.****THE SAFEST AND BEST PREPARATION OF OPIUM.**

In 2-oz., 4-oz., 8-oz., and 16-oz. bottles.

**GLYCEROLE OF NEPENTHE** (eight times the single strength) for hypodermic injection. In 1 oz. Bottles.**NEPENTHE SUPPOSITORIES** in four strengths. Equivalent to  $\frac{1}{8}$ ,  $\frac{1}{4}$ ,  $\frac{1}{2}$ , and 1 grain Morphia.

The word "NEPENTHE" is registered under the Trade Marks Act, and is the exclusive property of Ferris & Company, Ltd. We have from time to time been compelled to obtain injunctions in the Courts by which Defendants were perpetually restrained from dispensing, selling, or supplying under the name of "NEPENTHE," or any colourable imitation thereof any medical preparation not prepared by us, and from in any manner infringing our Trade Mark "NEPENTHE" (No. 464), and were ordered to pay the costs of the actions.

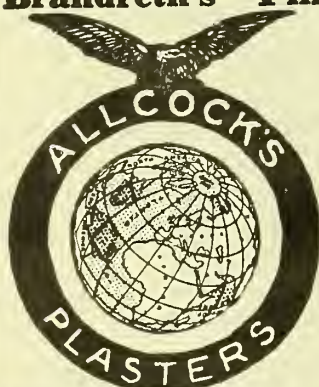
The Trade are respectfully warned against any infringement of our Trade Mark "NEPENTHE" or the use of any name so nearly resembling it as to be calculated to deceive, and also against dispensing any but "Ferris & Co.'s" preparation when "NEPENTHE" is ordered in a prescription.

**FERRIS & CO., LTD., BRISTOL.**

The Original and only Genuine

**Allcock's**  
**POROUS PLASTERS**

A REMEDY OF 60 YEARS' STANDING.

**Allcock's Plasters**  
**Allcock's Corn and**  
**Bunion Plasters**  
**Brandreth's Pills***The*  
*Three*  
*Rollables.***"Sold all round the World."****A HANDSOME  
SHOWCARD**  
will be sent  
free of cost  
and post paid  
on application.**ALLCOCK &  
MANUFACTURING  
COMPANY****22 Hamilton Sq.,  
Birkenhead.****VINCENT WOOD'S** NEW  
FAST EDGE  
**"Eureka" Crêpe Velpeau Bandages.****RUBBERLESS,  
Porous and  
WASHABLE.****Special  
discount  
for quantities.****Design & Trade Mark Registered.****SOLE  
IMPORTER  
for Gt. Britain  
and Colonies.****Wholesale  
from  
all Sundries  
Houses.****THE BANDAGE OF THE FUTURE**  
in cases of Varicose Veins, Sprains or Abdominal Binding, &c.

NO OTHER will be worn or asked for.

Prices per doz. Bandages, Widths: 2 2 1/2 3 4 8 11 ins.  
Best Quality ... 12/- 15/- 18/- 36/- 54/-  
2nd " " " 9/- 12/- 15/-Send for Price List of Trusses, Belts, Hot Water Bottles, Elastic  
Stockings, Sponge Bags, Bathing Caps, &c.  
**4 ALBION PLACE, Blackfriars Bridge, LONDON, S.E.**

Every Genuine Bandage must have "Eureka" on Wrapper.

Customers can have their own names on Wrappers and Circulars.

**USE BEST BOTTLES ONLY.**  
**WILL YOU PLEASE TRY OURS.****I. ISAACS & CO.'S REDUCED PRICES****106 MIDLAND ROAD, ST. PANCRAS, LONDON, N.W.**

The New Shape, Oval Fronted Bottles, 6 ounce size, 9/- per gross.

A Sample Free on Application.

**FIRST QUALITY. Quinine Tinted.**3 & 4 6 & 8 12 16 ounce. } Round edges, plain or  
10/- 11/- 18/- 20/- per gross } graduated, quinine tinted.**Clear Blue Tinted.**3 & 4 6 & 8 12 16 ounce. } Round edges, plain or  
8/- 9/- 13/- 18/- per gross } graduated, clear blue tinted.**PANEL BOTTLES (New Series), Green or Blue Glass.****Good Quality.**  
2 2 1/2 4 6 8 10 ounce. } In ordering please say if  
7/6 8/- 9/- 10/- 10/6 13/- per gross } green or blue is required.**WHITE PHIALS—GOOD QUALITY.**3/6 1 1 1/2 2 ounce. } Plain or teaspoons.  
3/6 4/- 4/6 5/6 per gross }Six gross and upwards, assorted or otherwise, sent carriage paid to any  
address in the United Kingdom. Smaller quantities not carriage paid.

Established 120 years. Bankers: London County and Westminster Bank.



# The Ideal Enema for Nurses and Doctors.

No metal  
parts  
whatever in  
connection  
with the  
"Sterilendum"  
Enema.

*INGRAM'S*  
**"STERILENDUM" ENEMA**

Specially  
prepared for  
Export.



Guaranteed  
Not to  
Split.

No metal  
parts  
whatever in  
connection  
with the  
"Sterilendum"  
Enema.

IT is well known that the advance of medical science has brought about the fact that all surgical instruments should be sterilized, and it is maintained by the Medical Profession that sterilization should take place immediately before and after use to destroy all Bacteria and Germinating Matter, and it is for this reason that we have introduced the "Sterilendum" Enema. It is made of an india-rubber (and fitted with glass mounts) suitable for sterilizing without injury, under the simplest process, viz.: by boiling in water.

AT the present time most of the Enemas on the market are fitted with metal and absorbent fittings to which Germs are likely to adhere, and are liable to corrode and become injurious if submitted to sterilizing by boiling in water.

THE "Sterilendum" Enema is fitted entirely with glass pipes and valve so that it can be sterilized in its entirety.

IT is a well-known fact that we are the original Patentees and manufacturers of Seamless Enemas, in consequence of which (by our number of years' experience) we have been able to introduce this "Sterilendum" Enema, which is admitted by the highest medical and scientific authorities to be the safest and most cleanly instrument of its kind in use.

IT might be mentioned that the "Sterilendum" Enema has been placed on the market in response to requests from the leading members of the Medical Profession and others interested in the study of hygiene, and the demand has been for an Enema which is wholly sterilizable. The "Sterilendum" Enema meets these requirements in every detail, and does not become injured by sterilizing, as in the case of those enemas which are fitted with metal mounts, &c., that become corroded, dirty and discoloured.

THE "Sterilendum" is fitted up in a highly enamelled box bearing the registered name, and the Enema itself is branded with the registered name "Sterilendum," and the public are warned against imitations. The Rectum and Vagina Pipes and Valve are made of toughened glass, and are effectively treated so as to render them unbreakable.

On the P.A.T.A. LIST

@ 33/9 per doz.

and Minimum Retail Price

**3/10**  
each.

**INGRAM'S**  
**"STERILENDUM"**  
**ENEMA**  
WARRANTED TO STAND  
BOILING WATER

On the P.A.T.A. LIST

@ 33/9 per doz.

and Minimum Retail Price

**3/10**  
each.

**THE BRAND MARK OF QUALITY.**  
None genuine without.

**OBTAINABLE OF ALL WHOLESALE HOUSES AT A PROTECTED PRICE.**

If unable to obtain same from your Wholesale House, kindly write us.

AN ATTRACTIVE CARD FOR SHOW PURPOSES WILL BE SENT FREE UPON APPLICATION.

Manufactured by the Original Makers of Seamless Enemas,

**J. G. INGRAM & SON,** THE LONDON INDIA-RUBBER WORKS,  
Hackney Wick, LONDON, N.E.

We have purchased, as a going concern, the business of a well-known maker of Clinical Thermometers, including the Patent (No. 4998)

## "DUO-IN-UNO" Clinical Thermometer

which has been specially designed with the object of doing away with the excessive exertion required to reset the index in the ordinary pattern.

With the "DUO-in-UNO" the proverbial "brace of shakes" is not necessary—one shake does all that is required.

In the "DUO-in-UNO," by the particular formation of the chamber which is constructed in this Thermometer, two constructions are made (as shown by diagram below) thus securing the utmost efficiency by one single operation.



In an Action in the Court of Appeal in the High Court of Justice in connection with this Clinical Thermometer, LORD JUSTICE ROMER in giving his Judgment for the Defendant (the Inventor) said: "That to his mind the Defendant made a new invention, and solved substantially a new problem and a new method altogether."

Everyone who tries this improvement considers it well worth the small additional price (see below).

## "EMPIRE" Clinical Thermometers. *Guaranteed Best London Make from Well-seasoned Tubes.*

As we are now manufacturing these goods in our own workshops we are able to give the closest supervision to their careful production, and we can guarantee the highest standard of quality being maintained.

PRICES	"EMPIRE."		"DUO-in-UNO."	
		s. d.		s. d.
	Hospital Pattern ... ..	per doz. 9 0		per doz. 12 0
	" Lens Front ... ..	" 13 0		" 15 0
	60 Second, plain ... ..	" 12 0		" 15 0
	" Lens Front ... ..	" 16 0		" 20 0
	30 Second, plain ... ..	" 13 6		" 18 0
	" Lens Front ... ..	" 20 0		" 27 0
	Certificate of accuracy verified by Kew Observatory ... ..	per doz. 12/-		

Each Thermometer is in a metal case, and packed in a specially designed card box with descriptive label on lid. Customers' names engraved on the Thermometers free of charge. We accept all risk of breakage in transit if advised by return of post.

■ A glass-topped Showcase given FREE with orders for three dozen Thermometers.

5% discount allowed for prompt cash off above prices.

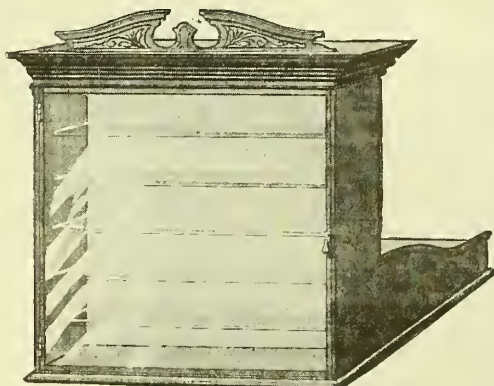
Carriage paid on orders of £2 and upwards.

**OUR GOODS ARE RIGHT AND PRICES LOW.**

Write for Illustrated Price List, Post Free.

**BURGE, WARREN & RIDGLEY, Ltd., 91 & 92 Great Saffron Hill, LONDON, E.C.**

# D. GRANT SHOP-FITTER & PATENTEE



## COMBINATION DESK & SHOWCASE

Solid Polished Mahogany, plate glass, mirror back, five adjustable shelves. 24 in. wide to 27 in. £3. 30 in. wide £3 5s. 0d.

## COUNTER CASES FOR SALE

Best quality, only 6 months in use at Glasgow Exhibition. Best British Plate Glass. Solid Polished Mahogany, plate mirror folding doors, spring catches. All repolished equal to new, 10s. 6d. per foot run, packed and put on rail. Also one dispensing case, particulars on application.

**ST. JAMES' PLACE, EDINBURGH.**



# WARNING !

## Syracuse Suspensory Bandages.

In an action brought in the Chancery Division of The High Court of Justice, wherein JOHNSON & JOHNSON of New Brunswick, U.S.A., were Plaintiffs, [.....] were Defendants, the following Injunction was by consent granted by the Honourable Mr. Justice Eve.

"This Court doth order and adjudge that the Defendants their officers servants and Agents be perpetually restrained from selling or offering or exposing or advertising for sale or procuring to be sold any suspensory bandages not being of the Plaintiff's manufacture or merchandise under the name "Syracuse" Suspensory Bandages or in any such get up as by reason of colourable imitation of the same "Syracuse Suspensory" or of the get up of the box (being the exhibit marked H.C. 21 to an affidavit of Henry Charles Quelch filed 28th February 1912) in which the Plaintiff's bandages are sold or otherwise is calculated to represent or lead to the belief that the Defendant's goods are the Plaintiff's goods and from in any manner passing off or enabling or assisting others to pass off the Defendant's goods aforesaid as or for the Plaintiff's goods aforesaid "

And an order was made for delivery up of all infringing packages, labels, and things, and for payment by the Defendants of the Plaintiff's costs. In reference to the above Judgment, Messrs. JOHNSON & JOHNSON are determined to protect their rights in Syracuse Bandages at all costs, and wherever they are infringed.

**SYRACUSE SUSPENSORY BANDAGES** are obtainable through all the wholesale London and Provincial Houses.

### PRICES. Made in three sizes—Large, Medium, and Small.

	Dozen s. d.		Dozen s. d.
No. 10s Cotton sack, non-elastic band ...	8 0	No. 32 Fine silk sack, special weave silk band	40 0
No. 16 Deimel linen mesh, non-elastic band	16 0	No. 34 Fancysilk sack, ventilated satin finish	
No. 21 Deimel linen mesh, elastic band ...	20 0	silk elastic band ... ..	53 0
No. 22 Stockinette sack, non-elastic band ...	24 0	Extra Large sizes are made in Nos. 10 and 26.	
No. 26 Bolting silk sack, elastic band ...	30 0		
No. 27 Silk sack, open weave, elastic band...	30 0	<b>J.P. Suspensory Bandages.</b>	
No. 28 Fine silk sack, cotton elastic band ...	30 0	Large, Medium, and Small Sizes.	
No. 31 Fine silk sack, special weave, elastic		No. 45 Plain cotton sack ... ..	8 4
band ... ..	36 0	No. 50 Fancy cotton sack ... ..	10 6
		No. 53 Silk sack ... ..	12 6

SOLE AGENTS:

**HENRY C. QUELCH & CO.,** 4 LUDGATE SQ., LONDON, E.C.

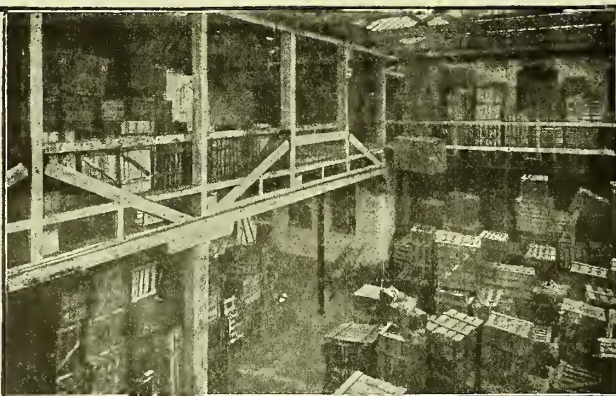
# GLASS BOTTLES

## STOCK KEPT HERE

*Illustrated List of Goods actually in Stock  
at our New Warehouses sent on application to*

**Jules Lang & Son,**  
Charlton Works, Charlton Place,  
**ISLINGTON.**

Telephone: NORTH 1344 & 1345 (2 Lines).  
Telegrams: "ASSORTED LONDON."



# J. H. HAYWOOD, Lim.

Surgical and Athletic Appliance Manufacturer,  
**CASTLE GATE, NOTTINGHAM,** and 16 SILVER STREET,  
WOOD STREET, LONDON, E.C.  
**SPECIALITIES FOR SUMMER.**

SURGICAL ELASTIC STOCKINGS, with and without Seams, made Thin, Fine, and Soft.  
TRUSSES covered with Light Materials. Ladies' and Gentlemen's BELTS made from Light  
Porous Materials. Elastic and Leather WRISTLETS, ARM-PIECES, and ELBOW  
SUPPORTS for Lawn Tennis, Cricket, &c. APPLIANCES for TOILET and SEASIDE.  
WASHING GLOVES. BATH MOPS. PADS. SLIPPERS. MATS. SANDALS,  
and in TURCO and LOOFAHS. SPONGES. BATHING-CAPS. INDIA-RUBBER  
APPLIANCES. ARTIFICIAL LIMBS, &c. DEFORMITY INSTRUMENTS.  
DRUGGISTS' SUNDRIES. PERFUMES, &c.



Telephone 656 Midland.

**LEWIS WOOLF,**  
Anchor Works,  
9, 10, & 11 Bissell St., BIRMINGHAM.

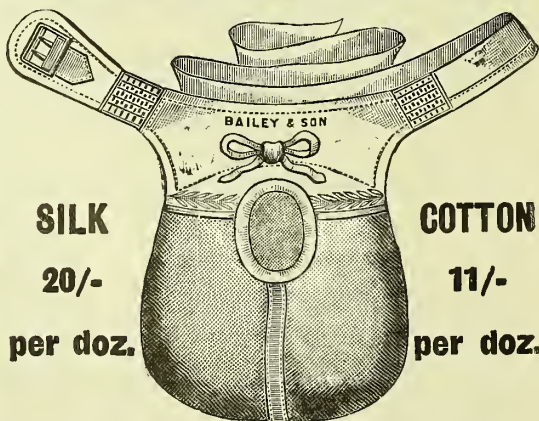
Manufacturer & Patentee of the "GRIP-TIGHT"  
AND PATENT PNEUMATIC SOOTHERS;  
Also of Bone Stem, Bone Ring with Button  
Fittings and Olive Mounts of every description.

My world-wide and long-established reputation is a  
guarantee that price and quality cannot be surpassed.

Samples Free on Application.  
Wholesale and Export only.

Quotations to suit all Buyers.  
Established over 30 years.

# BAILEY'S "A.B.C." SUSPENSORIES.



SILK

20/-

per doz.

COTTON

11/-

per doz.

Assorted—A, small; B, medium; C, large bags.

**W. H. BAILEY & SON,**  
38 OXFORD STREET, LONDON, W. [3]



# "UNIQUE"

## HOT WATER BOTTLES

(COCKBURN'S PATENT).

These bottles are thoroughly reliable in every way, are inodorous, and will not leak.

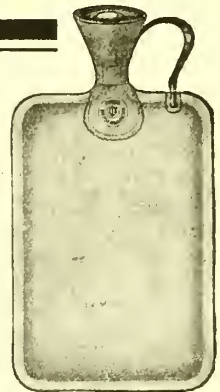
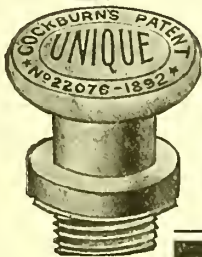
They are only genuine "North British" manufacture when fitted with a rubber stopper branded "UNIQUE" as illustrated.

**NO OTHERS ARE GENUINE.**

Sold by Merchants and Stores everywhere.

*Sole Manufacturers*

**THE NORTH BRITISH RUBBER CO., LTD.**  
CASTLE MILLS, EDINBURGH.



(B72a)

Telephone Number : 6660 Holborn (4 lines).

**H. POTHS & CO.,** 26 & 27 FARRINGTON STREET, LONDON, E.C.

Shop Bottles and Jar with Vitrified Labels, Show Bottles,

Perfume, Screw-capped, and Medical Bottles of all kinds. Graduated Measures, Druggists' Sundries.

ILLUSTRATED CATALOGUES FREE.



# DISPENSING BOTTLES, &c.

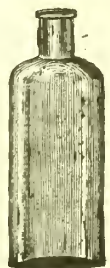
We are now offering above of first-rate quality,  
:: in original packages, at very low prices. ::

**SAMPLES & PRICES WILL BE SENT ON APPLICATION.**

**E. YOULDON, LTD.**

Carter Street, Maplin Street, MILE END, LONDON, E.

ESTABLISHED 1840. Telegrams : "Youldon London." Telephone : East 132.



# THE OPINION

## of Chemists in Manchester and District on **CAMWAL'S** Co-operative Direct Trading Plan.

### From a Chemist at Stockport, Manchester.

Many thanks for Bonus Cheque to hand, my share of the profits of Direct Supply. As one who was very antagonistic to the scheme, I am more than pleased with the results obtained, and I have hopes that my cheque will be doubled for the ensuing year.

### From a Chemist at Chorlton-on-Medlock, Manchester.

I acknowledge your cheque for my second bonus. As the amount is nearly double the first bonus, it is really very satisfactory and most encouraging. I trust this increasing trade will continue to our mutual benefit.

### From a Chemist at Didsbury, Manchester.

I thank you for cheque, being bonus on Camwal Waters sold direct by you in this district, which system seems to have worked very satisfactorily here. It makes one feel that after all the Chemist does make something out of Camwal, notwithstanding the grumbling that goes on from time to time.

### From a Chemist at Brooks's Bar, Manchester.

I am obliged for Bonus. This is very satisfactory, and besides there is no doubt that your system of sampling and canvassing has very much increased my sales of your Waters.

### From a Chemist at Bramhall, near Stockport.

I beg to acknowledge receipt of bonus on Syphons sold during the twelve months ending May 31st. It is very gratifying to know that my sales have so materially increased.

Instead of, as I at one time feared, your Direct Supply System being of injury to the Chemists' Sales, it must have given a distinct impetus to our business.

### From a Chemist at Chorlton-on-Medlock, Manchester.

We beg to acknowledge receipt of Bonus. We consider the Direct Supply, as carried out by you, very satisfactory.

### From a Chemist at Heaton Chapel, near Stockport.

Many thanks for your cheque. This is almost double the amount received from you last year, and shows, I think, a most satisfactory state of things. If you can go on increasing at this rate, it will be all right from my point of view, so long as you do not injure the Chemist's own trade, and up to now the opposite has been the case as far as my own experience goes.

### From a Chemist at Chorlton-on-Medlock, Manchester.

I am agreeably surprised to find my sale of Camwal Waters has increased 70 per cent. over last year, and was highly delighted on receiving your cheque this morning for my bonus on your Direct Supply Sales.

### From a Chemist at Cheadle, Manchester.

We acknowledge receipt of cheque for bonus on the Direct Supply trade for the year ending May 31st, 1912. In view of your very considerable direct trade effected in the districts where our shops are situated, it is particularly gratifying to note that our own trade in Camwal Waters has also materially increased during the period concerned.

### From a Chemist at Heaton Chapel, near Stockport.

I am obliged to you for your cheque. Comparing this amount with the previous bonus, I find a substantial increase, which is a sure proof of the growing popularity of Camwal Table Waters.

### From a Chemist at Manchester.

I desire to thank you for bonus on trade done last year, which is just to hand. I may state that this shows a healthy state of affairs, as I find that the cheque is for three times the amount of last, and, being calculated on my sales, proves a corresponding increase there.

### From a Chemist at Urmston, near Manchester.

I am much obliged for bonus. I am pleased to notice that the Sales have increased during the twelve months, to our mutual benefit.

Particulars of CAMWAL'S SCHEME will be gladly supplied to any Chemist on application.

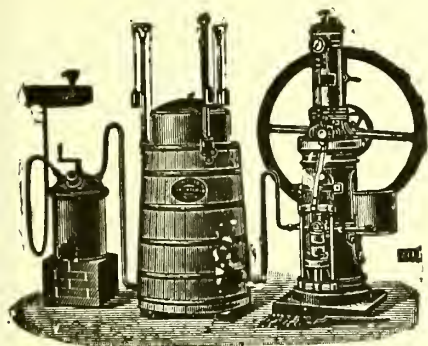
**CAMWAL Ltd.**, *Factories at*

**LONDON, MANCHESTER, BIRMINGHAM,  
BRISTOL, HARROGATE & MITCHAM.**

*Head Office :* **112 Pembroke Street, LONDON, N.**



# THE BEST HOUSE IN THE WORLD FOR ALL REQUIREMENTS OF THE MINERAL WATER TRADE



## "THE NIAGARA."

This type is fast superseding all other makes, and is used in the leading manufacturing of the world.

**PRICES FROM  
£18 10s.**

See Catalogue for other types.  
Are all Fitted for Hand and Power.

NOTE.—We include all necessary Connecting Pipes free without extra charge, so that the machinery is ready for work upon arrival.

For larger sizes see Catalogue.

By our new process of Back Pressure Filling we can guarantee the

**HIGHEST QUALITY  
SODA WATER at  
60 lb. Pressure**

Thus saving **HALF YOUR GAS.**



## THE "COMPACT."

For Use with Compressed Carbonic Acid Gas.  
In use by the leading Chemists, Hotels, Hospitals, and Public Institutions throughout the United Kingdom.

*The Most Successful Machine of the Times.  
The Perfection of Simplicity.  
Automatic Carbonation.*

### PRICES.

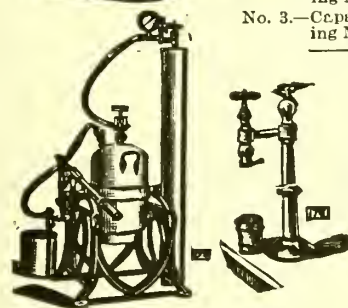
- |   |         |
|---|---------|
| No. 1.—Capacity 1,200 dozen per day, including Filling Machines for Bottles and Syphons | £60 0 0 |
| No. 2.—Capacity 600 dozen per day, including Filling Machines for Bottles and Syphons   | £48 0 0 |
| No. 3.—Capacity 300 dozen per day, including Filling Machines for Bottles or Syphons    | £33 0 0 |

## THE "CYLINDER" SODA WATER PLANT.

This is a Cheap Apparatus, designed for use with Compressed Carbonic Acid Gas, for serving Soda Water on the counter by means of a silver-plated counter stand.

PRICES FROM £15.

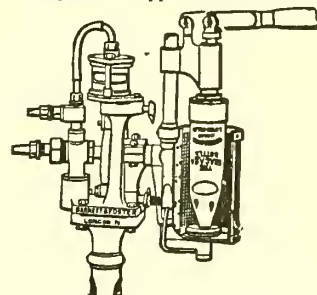
Specially suitable for Hotels, Chemists  
Confectioners, Pastrycooks, &c.



## THE "IDEAL."

FILLING MACHINE.

for "Codd's Niagara" and all kinds of Internal Stoppered Bottles.



With Syrup Pump ... £9 9 0  
Without Syrup Pump £7 7 0

## THE "GALWAY."

FILLING MACHINE FOR  
SYPHONS.

THE SIMPLEST OF ANY  
SYPHON FILLER YET  
INTRODUCED.

With Syrup Pump,  
£10 10 0  
Without Syrup Pump,  
£5 5 0

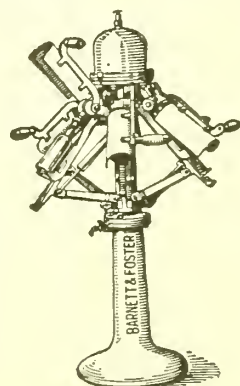
Low Pressure Attachment  
whereby half the Carbonic  
Acid Gas is saved, with  
better product resulting.  
For use with any Filling  
Machine.



## BALL-STOPPERED BOTTLES, SYPHONS,



**Cork & Crown-Cork Bottles**  
AT LOWEST RATES.  
Prices upon Application.



## THE "ROUNABOUT" BACK PRESSURE FILLER.

For the Bottling of Aerated Beverages and Beers in specially economical and expeditious manner. Superior quality at lower pressure, saving gas and breakage in bottles with greater output from machine. Made in six sizes—three for Hand, three for Power. For all classes of Bottles. Provides THE Modern method of filling.

Send for Booklet, "All about the Roundabout."

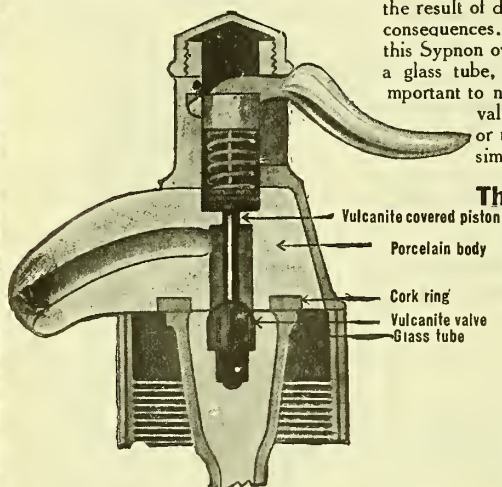
# BARNETT & FOSTER

"Niagara Works,"

26<sup>th</sup> Eagle Wharf Rd.,

LONDON, N.

# A PERFECT SYPHON



CHEMISTS who sell Soda Water should take care to be on the safe side. This can best be secured by using SHARMAN'S PATENT HYGIENIC SYPHON. This Syphon has a solid Porcelain head, and is the only safe Syphon on the market, as the contents do not come in contact with either metal or rubber. Every Chemist will know that both these substances, when used for Syphons contaminate the Aerated Water. Syphon Heads made from Tin, Lead, Antimony, or Aluminium Alloy, are dissolved by the  $\text{CO}_2$  used in the process of Aeration; therefore the waters sold in Syphons with metal heads cannot be relied upon, and the result of drinking these waters has been proved to be attended with most serious consequences. A glance at the section of SHARMAN'S SYPHON will show how this Syphon overcomes these objections. The water passes from the Syphon through a glass tube, over a vulcanite valve, and through a solid porcelain Head. It is important to note that the piston working the vulcanite covered valve is itself covered with vulcanite, making metallic or rubber contamination impossible. It is perfectly simple but absolutely effective.

## The Special Points to emphasize are:

**BETTER WATER.  
EASY ACTION.  
SHORT LEVER PRINCIPLE.  
EASILY DETACHABLE PARTS.  
FREEDOM FROM LEAKAGE.  
MODERATE COST.  
ABSOLUTE PURITY.**

*If you manufacture your own Aerated Waters you should use SHARMAN'S PATENT HYGIENIC SYPHON. If you buy Syphons ready filled, insist upon your suppliers using it.*



*If you contemplate Filling your own Syphons apply here for best Machinery:*

**SHARMAN'S PATENT SYPHON CO., Ltd., 171 LOWER CLAPTON RD., N.E.**

# VITTEL

## GRANDE SOURCE.

The TABLE WATER for Arthritis, Gout, and Kidney Troubles. . . . .

**VOSGES,  
FRANCE.**

## SOURCE SALÉE.

The TABLE WATER for Constipation, Complaints of the Liver and Stomach, Gall Stones, Glycosuria, &c. . . . .

*Vittel Spa has many attractions for visitors.*

*Full particulars on application*

**10,000,000 BOTTLES SOLD ANNUALLY.**

**VITTEL, 12 Mark Lane, LONDON, E.C.**

# A. MILLAR & CO., LTD., DUBLIN PURE ORANGE WINE

(VINUM AURANTII, B.P.) Prepared in strict accordance with the Formula of the British Pharmacopoeia.  
London Agent: JAMES STIRTON, 23 ST. DUNSTON'S HILL E.C.

(Wholesale only.)

**TO USERS and DEALERS in METH. SPIRIT and SPIRIT OF WINE.  
FOR QUOTATIONS apply to—**

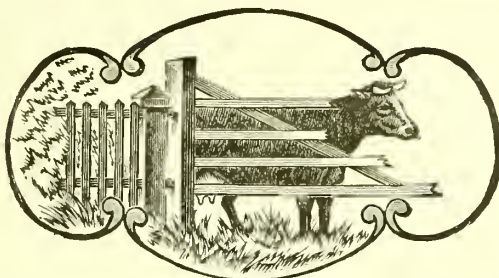
**PRESTON'S LIVERPOOL DISTILLERY CO., LD.**

The Largest Makers in the Kingdom.  
**BANKHALL DISTILLERY, SANDHILLS, LIVERPOOL. Office: 4 India B'ngs, Water St., Liverpool.**



GOOD PROFITS **P.A.T.A.** LARGE SALES  
ASSURED TO CHEMISTS WHO PUSH

**COW &  
MILK, IN**



**GATE  
POWDER FORM.**

STERILE.

ASSIMILABLE.

THE POPULAR AND PRACTICAL SUBSTITUTE FOR MOTHERS' MILK.

**SPECIAL FEATURES—**

**STERILE:** Protects from Summer Diarrhoea. **DIGESTIBLE:** Coagulates in fine flocculent form, and is assimilated when other foods fail. **CONTAINS EVERY NEEDED ELEMENT TO ENSURE PERFECT NUTRITION.** **SIMPLE TO PREPARE:** Hot Water only needed. No complicated formulas for Mothers or Nurses.

HIGHLY APPROVED BY THE MEDICAL PROFESSION.

**“BABIES LOVE IT.”**

SHOWCARDS, DUMMIES, and ILLUSTRATED LITERATURE supplied through Wholesale Houses, or direct on application to—

Sole Manufacturers: **THE WEST SURREY CENTRAL DAIRY CO., LTD., Guildford, England.**

## Lofthouse & Saltmer, Ltd.

—Wholesale and Export Drug—  
Merchants, Manufacturing Chemists,

**HULL,**

invite the attention of the Trade to the following well-tried preparations, which carry a big P.A.T.A. retail protected profit, and are well known and valued by the public in many parts of the country.

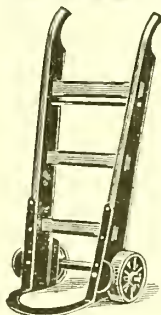
<b>Losall's Asthma Remedy.</b>	PROTECTED RETAIL PRICE.	DOZ. net.
Very effective Remedy for Asthma, Bronchitis, &c.	1/-	7/6
<b>Losall's Salt.</b>	6d.	3/6
The popular remedy for Eczema, Gout, Rheumatism, and Billiousness. Well advertised.	1/-	7/-
	1/6	10/6
<b>Losall's Compound Sulphur Soap.</b>	1/-	8/-
A valuable emollient medicated Skin Soap, especially for use in Eczema cases.		
<b>Prepared Barley ("CROWN" BRAND).</b>		4/-
Usual 1/- size, lever lid tins, for children and invalids.		
<b>Malted Food.</b>		4/6
Usual 1/- size, lever lid tins, name and address free on 3 dozen. Special design label with name and address on gross orders, if desired.		

London Agents: **F. NEWBERY & SONS, Ltd.**

## Corks for Chemists

Good Corks deserve a trial. On receipt of present cork you use most of, we will gladly send you a free sample and price lists. No dearer, yet superior—we invite you to test them thoroughly free of charge.

**N. W. MITCHELL & SONS, Ltd.**  
LIMEHOUSE, E.



## TRUCKS AND HAND-CARTS

of all descriptions.

Illustrated List on request.

**CREWE & CO., Hunslet New Rd.,  
LEEDS,**

and 322-4 Gray's Inn Rd., LONDON, W.C.

**FRED<sup>K</sup>. FINK & CO.**

10 &amp; 11 MINCING LANE, LONDON, E.C.

**SPECIALITIES:** Gums Arabic and Tragacanth as imported or finely powdered—Dextrine, Camomiles, Honey. Waxes of all kinds for Boot Polishes, &c.

**WARNING TO THE TRADE!!!**

**THE SUCCESS OF FARMER'S "BAITED" PHOSPHOR PASTE** has induced some person to endeavour to imitate our popular brand. When ordering, kindly state Farmer's to your wholesale house.

Write us please, if you are doubtful as to its genuineness.

**SIZES:** 3d., 6d., 1/- and 2/6. All letters to

**FARMER'S BAITED PHOSPHOR PASTE WORKS,**

1a College Lane, Homerton, London, N.E., or any Wholesale House.

Specialists in the manufacture of  
**WATERPROOF SMALLWARE, SPONGE BAGS, BATHING CAPS, &c.,** in greatest variety and excellence.

"**FATHER NEPTUNE'S SAFE FLOATS,**" safe in name and safe in use.

**F. SCHUTZE & Co., Ltd.,** Black Bull Works,  
CALEDONIAN MARKET, LONDON, N. [2]

**TO WHOLESALE BUYERS & SHIPPING MERCHANTS ONLY.**

FOR ALL KINDS OF

**CAPSULES & PERLES.**

Hand-made or Machine-made. "TYE'S" will ensure purity of contents and best finish. Specially prepared to suit all climates.

**JOHN TYE & SON** — Manufacturing Chemists,  
(Established 1845), PACKINGTON STREET, LONDON, N.

THE CROWN CAPSULE COMPANY.  
ST. JAMES' PLACE,  
PAISLEY, N.B.

**CAPSULES AND PERLES**  
SEND  
FOR SAMPLES & QUOTATIONS.

FEARLESS QUALITY—KEENEST PRICES.

**ARE YOU GETTING THE BEST RESULTS?**  
If NOT, try

**H. GARTHWAITE,**

The Old Established Dental Mechanic,  
200 MANSFIELD ROAD, NOTTINGHAM.

Write at once for Price List.

**VAN HORN & SAWTELL**  
— LONDON & NEW YORK — MAKERS OF

**K-Y LUBRICATING JELLY**

IN COLLAPSABLE TUBES, AND OF

*Van Horn* **STERILE SUTURES & LIGATURES**

IN GLASS TUBES — PRICES ON APPLICATION.

81-83 HIGH HOLBORN, W.C.

**ENEMAS, SPRAYS, DOUCHES, &  
SURGICAL RUBBER GOODS.**

— Write for List —

**X. L. RUBBER CO.** Broadheath Rubber Works,  
— ALTRINCHAM. —

**PRECIPITATED CHALK.**

LIGHTEST, WHITEST AND PUREST QUALITIES

APPLY TO—

**AUG. LEVERMORE & Co., Ltd.** 8/10 St. St. Helens,  
LONDON, E.C.

TELEGRAMS: "LEVERMORE LONDON." TELEPHONE: 4513 CENTRAL.

**DIABETES**

**G. VAN ABBOTT & SONS, London, S.E.**

Manufacture all foods for above.

Established 1859.

Tel: 7018 Central.

Telegraphic Address: "Glutens London."

**MECHANICAL**

**H.E. CULLWICK,** DENTAL MANUFACTURER, WOLVERHAMPTON.  
**DENTISTRY** BEST WORK. LOW PRICES.  
Est. 1888.

**MENTHOL CONES of all kinds**

for Home and Export Trade.

IN WOODEN and NICKEL CASES.

CAUSTIC POINTS of all strengths.

ALUM PENCILS.

COPPER SULPHATE PENCILS.

WART PENCILS. INSECT PENCILS.

COURT PLASTER, loose and in all kinds of packings.

PHARMAZEUTISCHE INDUSTRIE GESELLSCHAFT, Offenbach-am-Main 5

**First-Class Mechanical Dentistry.**

Reliable workmanship. Popular prices. Moderate charges for gold. D.A., Tubes, Seamless Gold Crowns, Sections, Vulcanite, &c. Ash's and D.M.Co. Teeth and Rubber guaranteed. Punctuality strictly observed. List free. Trial case solicited. Gold and D.A. work a speciality. Special cheap rates for show case pieces. 16 years' experience of first-class mechanical dentistry.

**E. O. HALDER, 46 New Cross Road, LONDON, S.E.**

**TOBACCOS ! CIGARS ! CIGARETTES !**

Every known Brand at Manufacturer's own List Prices. Endless variety of Tobacconists' Fancy Goods & Shop Fittings. The Trade only supplied. Opening orders a Speciality. Send for Price List.

**SINGLETON & COLE, Ltd., Cannon Street, BIRMINGHAM, AND BRANCHES.**

**SEND FOR OUR PRICE LIST OF SEASONABLE SUNDRIES**

BATHING CAPS, SPONGE BAGS, WASHING GLOVES, AND ALL SEASIDE AND HOLIDAY REQUISITES.

**THE GALEN MANUFACTURING CO., LTD.,**  
WILSON STREET :: NEW CROSS, LONDON, S.E.

**SCHOLL'S 'BUNION REDUCER'**

is a scientifically prepared soft rubber shield, to be worn over the bunion or enlarged joint to keep the pressure of the boot from the bunion, and which, at the same time, maintains the foot in shape, shuts out all air and moisture, and reduces the enlargement. Made in 3 sizes. Rights and Lefts. Special advertising matter and window display with orders. Send for full list of Scholl's Specialities.

**THE C. SCHOLL MFG. CO., LIMITED,**  
1, 2, 3 & 4 Giltspur St., London, E.C.





**DENTISTRY**

(Mechanical).

EXPERT WORKMANSHIP.  
POPULAR PRICES.PROMPT SERVICE.  
GUARANTEED MATERIALS.

"Dentistry for Chemists" post free. "Everyday Dentistry," 3/6.

F. C. WARDALE & CO., 132 High Street North, East Ham.  
Tel. No.: East Ham 174. Tel. Address: "Eladraw London."**Dentistry**

FOR CHEMISTS &amp; DENTISTS

Write for  
Price List**A.G. FENTIMAN**

129, BISHOPSGATE, LONDON, E.C.

**'RED CROSS' PILLS,**

MIXTURE, LOTION, EMBROCATION, OINTMENT, etc.

Title and Trade Mark registered by a Pharmacist, 1876,  
have always carried a 'LIVING PROFIT.'

From all Wholesalers or direct from

FOX &amp; CO. (L'pool), Ltd., 151 Dale St., LIVERPOOL, England.

**HEALO. 75 per cent. profit on cost.**

No skin ointment pays a Chemist better to handle than HEALO (regd.). It is the most attractive and best value in the market. With an order for 1 doz. (9/-) I send 50 Free Samples to hand over the counter. With 3 doz. I send bonus 3 Extra Boxes Free, and if desired I will circularise your district or send an advt. to local weekly paper. I also allow 5/- For Window Show. HEALO is on the P.A.T.A. Why not secure the Agency for your District. Particulars—MAURICE SMITH, KIDDERMINSTER.

**"AMAMI" NAIL POLISHING STONES**

ABSOLUTELY THE BEST.

4/- doz.

Wholesale from Maw's, Evans, &amp;c.

Also all requisites for finger toilet.

PRICHARD & CONSTANCE, Ltd., Manufacturing Perfumers, etc.  
Telephone: 11716 Central. 71 NEWMAN STREET, LONDON, ENG.**MILK IN POWDER FORM.**

WHEY POWDER for food Specialists.

Our milk products are perfectly soluble and give the finest results either alone or when used in proprietary compounds.

TRUFOOD, Ltd., 4 LLOYD'S AVENUE, LONDON, E.C.,  
and the Wrenbury Creameries, CHESHIRE.**CRIMSON CROSS REMEDIES.**DO  
YOU  
SELL  
THEM?

There are Three Reasons why you should:

- 1st. A demand has been created by advertising.
- 2nd. They yield a good profit to the Retailer.
- 3rd. They give satisfaction to the Customer.

—ENQUIRIES INVITED.—

At the CRIMSON CROSS DISPENSARY, DERBY. Tel. 628.

**J. PRIMER,**

302 Essex Road, London, N.

Manufacturer of

Ext. Alni Liq. Conc.

A remedy employed in cases of malignant disease.

**Papier Poudre****POPOEA PREPARATIONS**

Good Profit to Chemists, &amp;c.

Price List from  
PAPIER POUDRE, Ltd.,

23 Somerset St., London, W.

**PERBORATES.**SODIUM. ZINC.  
CALCIUM. MAGNESIA.PRESCOTT & CO., 63 Corporation St.,  
MANCHESTER.BUNCHER & HASELER,  
LTD.**ALUMINIUM BOXES**Branston St.,  
BIRMINGHAM, ENGLAND.**CACHETS "PELTOT."**

ALL SIZES 1/3 per 1,000 Plain or Embossed

Carriage Paid on orders for 5,000

Write for Samples to the Sole Agent:—

CICERO S. CLARK, PHARMACIE FRANCAISE  
12 Richmond Road, Westbourne Grove, W.**S.V.M. WINES FOR CHEMISTS. S.V.R.**A. MACNAIR & CO. Dolphin Distillery,  
Ardwick, MANCHESTER**LYMPHOID COMPOUND (Lowenthal)**

LYMPH SERUM (Lowenthal)

OVAMAMMOID COMPOUND (Lowenthal)

Supplied to the Medical Profession only  
(or on Prescription) SOLELY BY THE**BRITISH ORGANOOTHERAPY CO., LTD.,**

Carlton House, Lower Regent Street, London, S.W.

Telephone—7111 Gerrard.

Telegrams—"Lymphoid London."

**HEALTH SALT, LIVER, BLOOD,  
AND HYGEIA SALT, INSECT  
POWDER, FOOT POWDER,  
and other TINS.**Ask to see Patent Air-tight Health Salt  
Tins, as design, before buying.**SHIRLEY BROTHERS, Limited,**  
Whitcross Works, LONDON, S.E.**DISINFECTANTS**

OF ALL KINDS.

Cheapest Makers of Co-efficient Acids and Fluids.

**HENRY ELLISON, LTD., CLECKHEATON, YORKS.**



### ALEXANDRE'S SHADEINE FOR COLOURING GREY HAIR.

This popular article is largely advertised and stocked by all Wholesale Houses.  
**TRIAL BOTTLES** 6d. size, supplied on pretty showcards.  
4/- per doz.; 3/6 size, 28/- per doz.

58 WESTBOURNE GROVE, LONDON, W.

**ARSENATE OF LEAD**, Paste and Powder, **SODA ARSENATE** and **ARSENITE**, **EPSOM SALTS**, **GLAUBER'S SALT**, **WHITE COPPERAS** (Zinc Sulphate), **CHLORIDE OF ZINC**, Solid, Granulated and Liquid, **CHLORIDE OF TIN CRYSTALS**.

**WILLIAM BLYTHE & CO., LTD.**  
CHURCH, LANCS.

### C.C.L. INSECT PENCILS

GOLD MED ALS, BRUSSELS & PARIS.  
3 DOZEN ON ATTRACTIVE SHOWCARD.

Special Packing for the Tropics.

**CHALINE & CO., LTD.**, 58 NEW OXFORD ST., LONDON, W.C.



### KILLS NITS!

TO BE OBTAINED OF ALL  
WHOLESALE SUNDRIES HOUSES

AND OF

'NYTO' PREPARATIONS, LTD.

ST. JAMES' WALK,  
CLERKENWELL, E.C.

2d. per Packet.

Precipitated Chalk, Hyposulphite of Soda,  
Sulphite of Soda, Glauber Salts, Epsom Salts,  
Salts of Tartar, Alum, Sulphite of Lime,  
Sulphide of Sodium.

**E. BRAMWELL & SON, Ltd., ST. HELEN'S, LANC.**

# ZEPTO

THE SURE SELLER.



WRITE FOR LATEST SALES SCHEME  
THOS. CHRISTY & CO. Old Swan Lane E.C.



# DENTAL TOOLS & MATERIALS.

*Teeth, Rubbers, Anæsthetics, Chairs, Engines, etc.*

Low Prices. First Quality. **NEW CATALOGUE POST FREE.** Write for Quarterly Journal.

**G. J. PLUCKNETT & CO., LD.** 29-30 Poland St., Oxford St., London, W.

## Effective Dental Advertising.

Our Prices are the lowest, and should always be obtained before placing any order. They show a saving of 20 per cent.

Our Female Illustrations are from life (not imaginations), and we hold the largest variety of any Firm in the Kingdom.

Our models of Dentures, &c., are true (not Drawings).

Write for Specimens (returnable), Post Free. Return Postage allowed off order.

**T. H. GLADWIN,**

:: Specialist in ::  
Dental Advertising.

348 Cleethorpe Road,  
GRIMSBY.

# W. EDWARDS & SON,

157 Queen Victoria Street,

239 & 240 Upper Thames Street,

LONDON, E.C.

WHOLESALE AND EXPORT DEALERS IN

## Proprietary Medicines & Druggists' Sundries

English, American, French, &c.

**SOLE AGENTS FOR ROCHE'S HERBAL EMBROCATION,**

Burchell's Anodyne Necklaces; Ford's Balsam of Horehound; Bertelli's Catramin Pills, &c.; Bovine, a perfect Invalids' Food; Pædia, remedy for Horses, Dogs, &c.; Balm of Bethesda; O. & A. Oldridge's Balm of Columbia; Gombault's Veterinary Preparations; the Oleusaban Eucalyptus Disinfectants; Clark's Neuralgic Tincture; Ibeson's Foot Rot Ointment; Woolley's Candy; Digena Tea; Seymour, Hamilton & Co.'s Preparations.

Special Agents for the Concentrated Liquors and other preparations of Messrs. Fletcher & Fletcher.

PRICE LISTS SENT ON APPLICATION.

ORDERS CAREFULLY AND PROMPTLY EXECUTED.

Telegraphic Address—"MEDICINES LONDON."

Agencies undertaken on advantageous terms for Proprietary

Articles and other goods.

Telephones No. 285 BANK & No. 5698 Central.



**Increase your profits largely  
by selling**



By Royal Warrant  
to  
H.M. THE KING.  
Gold Medal  
and  
Diploma,  
World's Fair,  
1907.

The Standard Sheep Medicine and sure cure and preventive for Tapeworms, Husk, or Hoose, and worms generally in sheep and lambs. Sells in large quantities. In cans (30 to 40 doses), 5/-; 1/2-gal. (90 to 120 doses) 12/6; and 1 gall. (180 to 240 doses), 25/- each. Each with dose bottle in receptacle on top.

**WALTON'S (late of Croydon)  
ROUP PILLS.**



Cure all classes of Poultry, Game and Pigeons of Roup, Gapes, Colds, and other disorders of the Throat, Lungs, &c.; all inflammatory actions and Canker in Pigeons.

**WALTON'S  
TONIC PASTE.**

Prevents disease in Poultry, Game, and Pigeons; cures Indigestion, Loss of Appetite, Diarrhoea, Crop (relaxed or bound), General Weakness and Debility.

Finest preparation known for preparing exhibition birds. Pills and Paste in packages, 6d., 1/-, 2/6, 5/-, and 10/-. Liberal terms. Effective Show Cards and attractive literature supplied, including useful treatise "Health for Sheep."

Sole Proprietors: **STEPHEN PETTIFER & SONS**  
Only Address: **MALMESBURY, WILTS.**  
Wholesale from all usual houses.

**NO MORE TROUBLE FROM BIRDS  
ROT OR VERMIN.**

Are YOU Selling

**CORVUSINE D.G.**

The Wonderful Non-poisonous Liquid Seed Dressing.

**Seed Corn Protector  
Germinative Assistant  
Smut Dressing  
Prevents Premature  
Ground Rot.**

Readily Sold to Farmers by Chemists Everywhere.  
Retailed in sealed cans at 4, 6, 10/6, 20/-, 45/- each.

**GOOD PROFITS. PROTECTED PRICES.**

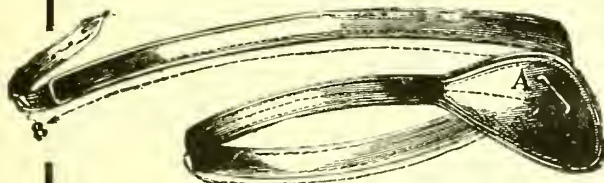
Write for Trade Terms, Literature  
and other advertising matter from

**ARTHUR E. HAWKER,**  
59 MARK LANE, LONDON, E.C.



**"HERNICURA" Trusses**

(REGD.)



**REASONS**

Why you should stock "Hernicura" Trusses (Regd.):

MARVELLOUS VALUE.

PRACTICAL SHAPES.

ALL LEATHER.

GREAT ADAPTABILITY

[Example; A 33 in. Truss will fit either  
32, 33 or 34 in.]

MEANS LARGE RANGE WITH SMALL  
STOCK.

WILL BUILD UP YOUR TRUSS TRADE.

**Singles, 18/- doz. Doubles, 39/- doz.**  
**Specials by return.**

LIST ON APPLICATION.

**JOHN MORGAN DAVIS & SONS,**  
278 BISHOPSCATE, LONDON, E.C.

**THOMAS SWALES**

24 Butts Court & 89 Albion Street,  
**LEEDS.**

**FURTHER REDUCTION IN**

**LOOFAHS**

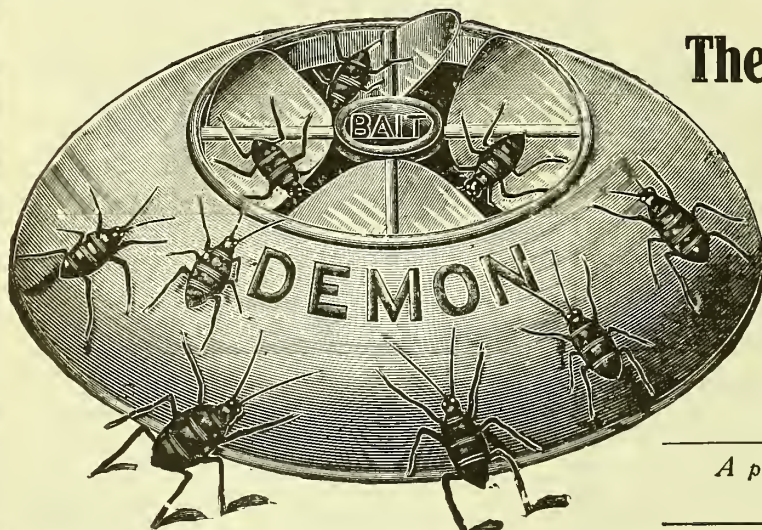
**SELECTED QUALITY.**

8 to 10 inches	-	7/6 per gross
10 " 12 "	-	10/6 "
12 " 14 "	-	16/- "
14 " 16 "	-	22/- "

Cash with Order 5 per cent. Discount.  
Carriage Paid on 10s. worth.



# Chemists sell Beetle Powder WHY NOT BEETLE TRAPS?



## The "Demon"

(REGISTERED  
TRADE MARK).

## BEETLE TRAP.

See that the name "Demon"  
is stamped on every trap.

*A profitable side-line  
for all Chemists.*

### JOSEPH SANKEY & SONS, LTD., BILSTON.

**THE DOOMO AIRSHIP FLY BAND**  
1d each  
PATENTED  
GUMMED ON BOTH SIDES

**THE DOOMO AIRSHIP FLY BAND**  
A wide band, sticky on both sides, unrolling like a blind.  
6s. 6d. gross, post paid on receipt of P.O.  
FLYODOOMO - the old favourite Fly Paper.  
5s. gross, post paid on receipt of P.O.

**Jno. H. Smith & Co.**  
NEWARK-ON-TRENT.

TELEGRAMS: SMITH, CHEMIST, NEWARK

## RAT CATCHER IDLE.



Mr. CROMBIE, Estate Office, Longhirst, writes:—"Since using 'Rodine' I have no necessity of employing a ratcatcher."

### RODINE RAT POISON.

Mr. BROWN, Gamekeeper, Dunglass, N.B., writes:—"Rodine" had excellent results. It killed thousands of rats."

Retail Prices:

6d., 1/-, 2/-, 3/-, 5/-.

PRICES TO APPOINTED AGENTS

ONLY.—Trade Terms: 3/3

6/6, 13/-, 19/6, 32/6 dozen.

Minimum Carriage Paid Order.

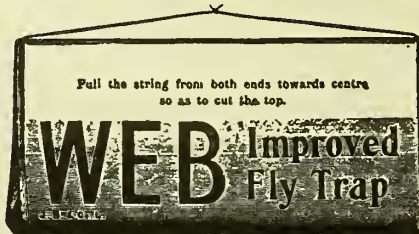
20/-. Smaller lots, 4/-, 8/-,

16/-, 24/-, 40/- dozen.

For immediate option of Sole Agency, apply to the Maker—  
Manfg. **HARLEY, Chemist, PERTH, N.B.**

## A CATCHING LINE!

Dimensions, closed, 4 in. by 1 1/2 in.



Dimensions, open, about 24 in. by 4 in.

Pull the string from both ends towards centre  
so as to cut the top.

**WEB** Improved  
Fly Trap

Sole Proprietors:

**J. BARRACLOUGH & CO., Water Lane, LEEDS.**

Samples and prices on application.



# FLY CATCHERS.

## THE IMPROVED "TURNSTILE" FLY COIL.

6/6 per gross.

Excellent Sticky Fly Paper. Very effective. Clean and easily opened.

## THE "KACH" FLY RIBBON.

2½ inches wide. 6/6 per gross.

Ribbon Sticky on both sides, contained in a small box, is very easily opened, clean and effective in use.

## THE "SWALLOW" FLY CATCHER.

5/- per gross.

The Old Favourite Fly Exterminator.

## THE "SWIFT" FLY CATCHER.

4/6 per gross.

A most successful Sticky Fly Paper.

## CHEMICAL FLY PAPERS.

Printed with customer's own Advertisement:

500 for 10/-	3,000 at 13/-
1,000 for 15/-	5,000 at 12/-
2,000 at 14/-	10,000 at 11/-

# FORD, SHAPLAND & Co.,

CHEMISTS' AND  
GENERAL PRINTERS,

6, Great Turnstile, High Holborn, London, W.C.

TELEGRAPHIC ADDRESS: "FORSHAPCO, LONDON."

TELEPHONE: 65 CITY.

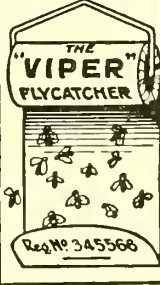
THE  
"FLYSAC"  
Reg. Trade Mark  
Pat. No. 20631-1909



THE  
"VAMPIRE"  
Reg. Trade Mark  
Pat. No. 4172-1899



THE  
"VIPER"  
Reg. Trade Mark  
Pat. No. 566-1909



Effective and Economical.  
Sell at Sight.  
Clean and Elegant.  
Big Profits and Quick Returns.

Appreciated by everyone except the  
Flies, and even they stick to it.

SOLE MAKERS:

KAY BROTHERS Ltd., STOCKPORT. (1)

Nat. Tel.: 247.

Reg. Telegraphic Address:  
"Kay Stockport."



## CHRISTY STRONG'S

## "COBWEB" AND "GRIP" FLY PAPERS

Per Gross **5/-** Carriage Paid.

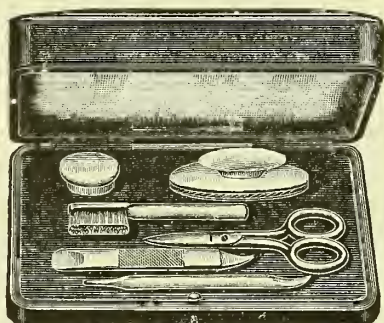
Postal Address:

115 CHATHAM STREET,  
READING.

Telegraphic Address: "STRONG READING."



# MANICURE CASES—Superior Fitted

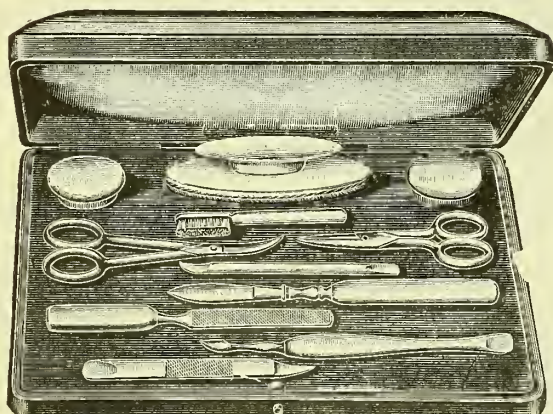


LEATHER  
COVERED.

No. 87. Ivory Fittings, 7/6; Ebony, 5/6 each.



No. 869. Ivory Fittings, 12/6; Ebony, 9/- each.

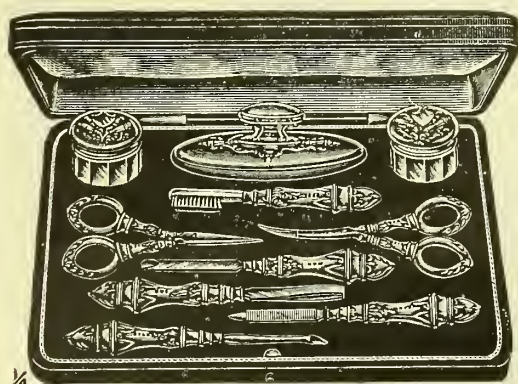


No. 95. Ivory Fittings, 24/-; Ebony, 15/9 each.  
11 pieces. Leather covered case, fine cutlery, 1½ in. boxes,  
best polisher.

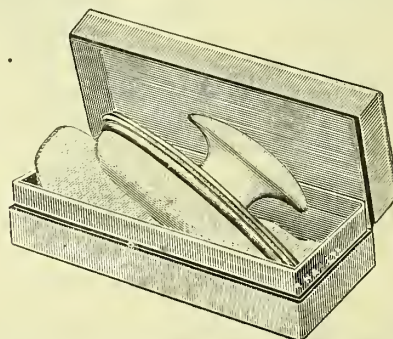
No. 93. (As No. 95, but with 9 pieces), Ivory Fittings, 18/6;  
Ebony, 11/6 each.



No. 6112. Ivory Fittings, 78/- each.  
15 pieces. Crushed Morocco case, 9½ × 7 × 3 in., spring lock,  
best Sheffield cutlery, sterling silver ring for renewal of cover  
of polisher, and three extra covers.



No. 6. Fancy Silver Fittings, 28/- each.



Nail Polishers, with rim and extra leather, each in a box,  
size 3½ inches, 4/6 per doz.  
Special quotation for quantities.

MONTHLY ILLUSTRATED LIST MAY BE HAD POST FREE ON APPLICATION.

**R. HOVENDEN & SONS, Ltd.,** 29, 30, 31, 32 & 33 BERNERS ST., OXFORD ST., W. **LONDON.**  
Tel. No. : 3021 Gerrard (2 lines).

89, 91, 93 & 95 CITY ROAD, FINSBURY, E.C. Tel. No. : 6260 London Wall (2 lines).



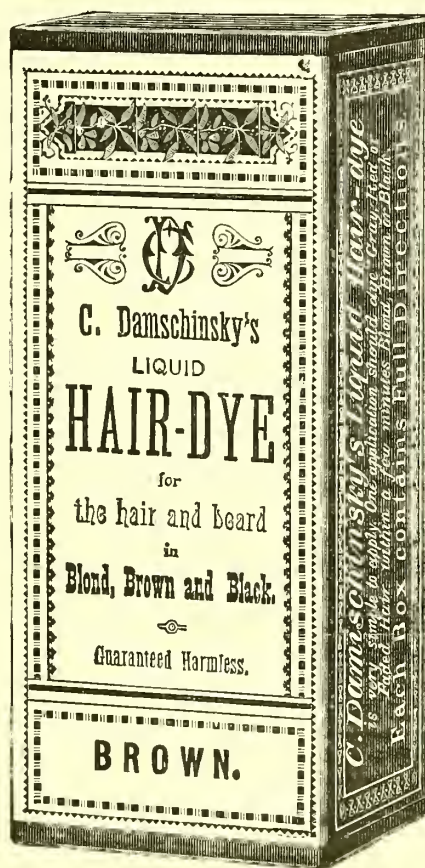
# "DAMSCHINSKY'S" American Liquid Hair Dye

ONE PREPARATION.

FOR THE HAIR & BEARD (in Three Shades),  
BLONDE, BROWN, & BLACK.

It contains no injurious substance. Dyes the Hair, whether grey or red, to any colour—from the finest blonde to the deepest black. It is efficacious and reliable. The oftener the colour is used, the darker becomes the shade of hair—so that the original colour of hair may be retained. It is a Dye, not a bleach. Will not give dark hair a light shade.

For orders of not less than 6 dozen, we give 1,000 Counter Bills with customer's own name and address as agent.



For quantities of not less than 2 gross, we print customer's own name and address on labels as agent.

PRICES :

1/3 Size :

9/- per Doz.

2/- Size :

12/6 per Doz.

## CERTIFICATE.

*This is to certify that I have examined C. DAMSCHINSKY'S LIQUID HAIR DYE, and find it to be free from all substances which might have an injurious effect, provided that the directions be adhered to. Especially is this preparation free from salts of lead and silver.*

*Dr. M. Hasenclever,*

*Wall Street, New York.*

*Analytical Chemist.*

SOLE AGENTS FOR  
GREAT BRITAIN;

**OSBORNE, GARRETT & CO., LONDON, W.**

No. 44

Maw's

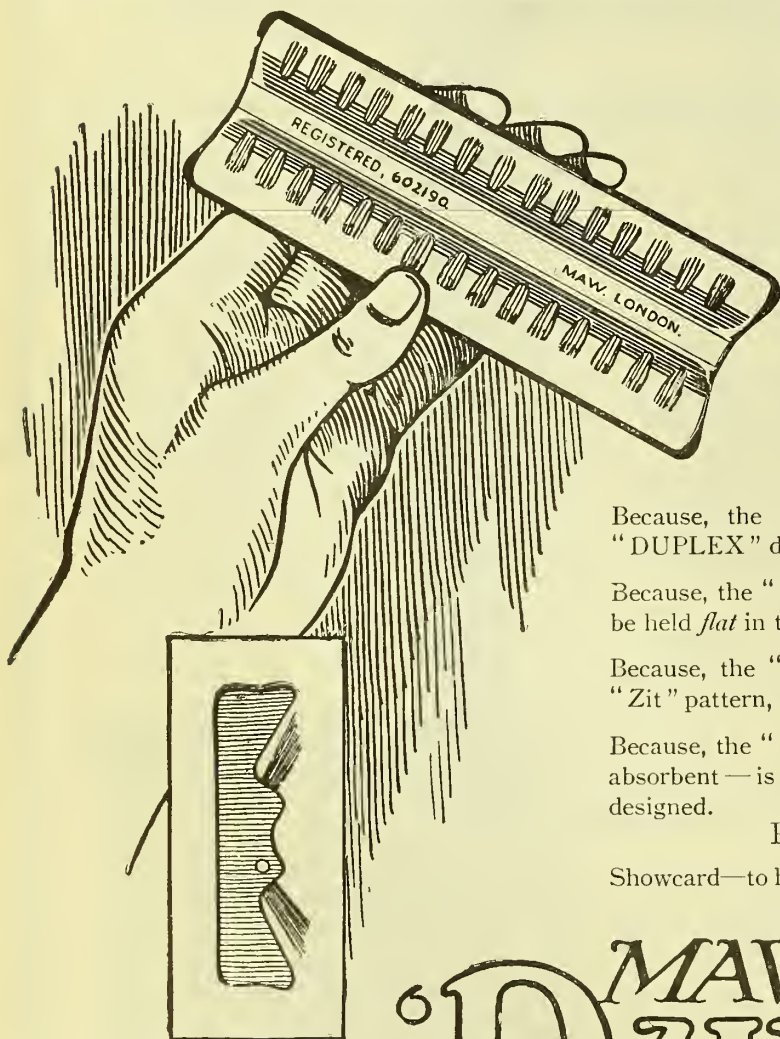
S. MAW SON & SONS  
7 to 12, ALDERSGATE ST.  
LONDON, E.C.

Page.

Telegraphic Address: "ELEVEN LONDON."

Telephone No.: LONDON WALL 3230 (4 lines).

*A customer often relies on a Pharmacist's opinion. A verdict in favour of "Maw" quality will always result in mutual satisfaction.*

SECTIONAL  
VIEW

REGD NO 602190

CUSTOMERS  
APPRECIATE  
SOMETHING NEW.  
THEY WILL BE  
CHARMED WITH  
OUR "DUPLEX"  
NAIL BRUSH.

Because, the two rows of bristles ensure for the  
"DUPLEX" double life.

Because, the "DUPLEX" is so constructed that it can  
be held *flat* in the palm of the hand.

Because, the "DUPLEX" bristles, as in the famous  
"Zit" pattern, are guided exactly under the finger nails.

Because, the "DUPLEX" is made of satinwood—non-  
absorbent—is perfectly constructed, and attractively  
designed.

PER 10/- DOZEN.

Showcard—to hold one brush—supplied with all orders.

MAW'S NEW  
**DUPLEX**  
NAIL BRUSH





# THE CHEMIST & DRUGGIST SUPPLEMENT.

OFFICE: 42 CANNON STREET, E.C. SATURDAY, AUGUST 17, 1912

A Copy of this Supplement is inserted in every Number issued of "The Chemist and Druggist."

## TO ADVERTISERS IN THIS SUPPLEMENT.

The Publisher desires to make it clear that advertisements of Businesses for Disposal and Wanted, Situations Open and Wanted, Exchange Column, &c., **MUST BE PREPAID** (except in the case of serial advertisers) and to ensure prompt insertion **REMITTANCES MUST ACCOMPANY INSTRUCTIONS.**

Advertisements for the current issue cannot be received after 4 p.m. on Thursday in each week. If it is necessary to telephone or telegraph an urgent announcement this may be done

**PROVIDED the MONEY is TELEGRAPHED**

at the same time and the fact made clear that the money order is to be delivered at 42 CANNON STREET, LONDON, E.C. Advertisers will assist greatly in the preparation and quick despatch of the Supplement by making careful note of these rules. Telephone: No. 852 Bank (two lines). Telegraphic Address: "Chemicus Cannon London." (Three words counted as two.)

It pays to pay for advertising  
in this Supplement.

## CHEMISTS' TRANSFERS.

Messrs. ORRIDGE & CO., 56 Ludgate Hill, E.C.

May be consulted at their Offices on matters of SALE, PURCHASE, and VALUATION.

1.—MIDDLESEX.—Death vacancy; good-class Family and Retail trade; returns £750; *net profit* £300; roomy house; rent £45; no near opposition; price £575.

2.—NORTH LONDON.—General, Retail, Dispensing, Prescribing, and Photographic Business, situate in good residential district; returns between £600 and £700 yearly; *profits above the average of Retail trade*; price £550.

3.—LONDON, S.W.—Retail and Dispensing Business; returns between £1,000 and £1,100 per annum; *net profit* £320; capital opening for Store trading; handsomely fitted shop, fully stocked; price about £850.

4.—LONDON, N.E.—Good middle-class Retail trade; returns exceed £900 yearly at good prices; *net profit* £300; ill-health cause of sale; reasonable offer entertained.

5.—LONDON (South Side of Thames), residential locality.—Retail and Prescribing Business, held by vendor 10 years; returns £800, increasing; *net profit* £250; no serious opposition; price £450.

6.—WATERLOO STATION (few miles out).—Retail and Dispensing Business; returns between £650 and £700 per annum; *profits good, fully up to the average*; very good house, private entrance; garden; rent moderate; price £550; ill-health cause of sale.

7.—WIMBLEDON (within easy distance of).—A very profitable Retail and Prescribing Business; returns between £1,000 and

£1,100 per annum; *gross profit* 45 per cent. (proof given); well-appointed shop; price £650.

8.—SOUTH WALES.—For immediate Disposal, old-established Pharmacy; returns under management £1,600; well-fitted shop and large stock; price £800, less than the value of stock and fixtures.

9.—WILTS (business centre).—Mixed trade; excellent opportunity; returns average £862; roomy house; rent £50; terms, goodwill £125 and valuation.

10.—GREAT EASTERN MAIN LINE (Market Town).—Very old-established Business; excellent position; returns under management £702; attractive shop, double-fronted; terms valuation.

11.—SUSSEX (Watering Place).—Ready-money Business, situate in large residential district; returns average about £1,000 yearly; *net profit* £275; full investigation invited; price £800, part of which can remain.

12.—CHESHIRE.—Old-established Business, Retail, Dispensing, and Optical; returns last year £560; *net profit about one-third*; price £550, about the value of stock and fixtures.

13.—SURREY (Rising Suburb).—Neglected Business; returns between £1,200 and £1,500 per annum; indifferently worked; rent £38; terms £100 and valuation of stock and fixtures.

14.—SOUTHERN COUNTY (Watering Place).—Dispensing and Retail Business; present returns between £1,450 and £1,500; well-appointed shop; price £900.

Particulars of any of the above will be furnished on application.

N.B. NO CHARGE TO PURCHASERS.

## VALUATIONS FOR STOCKTAKING.

Messrs. O. & Co. desire to emphasize the necessity of a Periodical Statement of Account, by which means alone **Profit, the value of Business, &c.**, can be determined. Involving as this does the labour of Stocktaking and Valuation, it is often omitted, and eventually becomes the cause of **confusion and loss.**

Messrs. O. & Co. are prepared to undertake these essential duties, and will make **Special Terms** for such services.

**ORRIDGE & CO., 56 LUDGATE HILL, LONDON, E.C.**



# BRETT & CO.

*Licensed Valuers,*

73 LAUREL ROAD, LEICESTER.

Telegrams, "Brett Leicester." Telephone 1934.

F. J. BRETT, M.P.S.,

**GIVES PERSONAL ATTENTION TO ALL VALUATIONS.**  
**AGENCY.**—We have always a large number of *Buyers* on our books, and we can frequently find a purchaser at once. We also have a *Private Register* for vendors who are in no hurry to sell, and who do not wish their businesses to be advertised.

## STOCKTAKING SPECIALISTS to the Entire DRUG TRADE

- 1.—NOTTINGHAM.—Returns approach £800; offer wanted.
- 2.—GLAM.—Returns £1,740; net profit £400; price £450, and balance £400 by arrangement; splendid chance.
- 3.—BERKS.—Unopposed Retail; returns £325; valuation £200, or offer.
- 4.—GLAM.—Returns £956; net profit about £250; price £600; further particulars upon application; sole agents.
- 5.—SALFORD.—Returns £400; net profit £140; price £100.
- 6.—LEAMINGTON.—Returns £550; net profit £200; price £300.
- 7.—LEEDS.—Two or three good-class Retail and Dispensing Businesses for Disposal requiring capital of about £800 to £1,000 to purchase; particulars to bona-fide buyers.
- 8.—LONDON, N.—Returns over £1,000; net profit about £250; price £450 for quick sale; vendor retiring.
- 9.—MIDLANDS.—For Disposal, Light Retail Business, with several valuable and profitable Proprietaries attached; turnover £1,400; net profit £650; further particulars upon application.
- 10.—DURHAM COUNTY.—Returns £650; net profit £220; price £250.
- 11.—LONDON, W.—Returns £880; net profit £280; price £400.
- 12.—MANCHESTER.—Returns £1,170; net profit £300; price £850.
- 13.—MIDDLESEX.—Returns £750; net profit £300; price £675, or a near offer accepted; practically unopposed; rent £45.
- 14.—LONDON, S.W.—Returns £750; net profit £200; price £300, and balance of £200 by arrangement; good-class Retail and Dispensing.
- 15.—STAFFS.—Returns over £600; net profit £200; price £350.
- 16.—YORK CITY.—Five Businesses for Sale; all prices.

# PARSON C. BAKER

174 VICTORIA ST., LONDON, S.W.

Recommended by—MESSRS. BARRON, HARVEYS & CO.

Telephone:

No. 27 Victoria.

MESSRS. MEGGESON & CO.

MESSRS. BARCLAY & SON, LTD.

Gives personal attention to all Commissions for Sale, Purchase, or Valuation on moderate terms; quotations free.

P. C. B. has had longer and more varied experience than any other trade valuer; actively engaged over 40 years, Wholesale and Retail, town and country, Dispensing and Agricultural; credit and cash and qualified to advise on any difficulty.

Vendors invited to send particulars, in confidence.

Purchasers stating requirements can have selection from Register of some hundred Businesses of all classes, sizes, or places, from £50 to £2,000. A few on the South Coast as under:—

Returns	Rent	Price	Returns	Rent	Price
£	£	£	£	£	£
1,200	80	1,050	550	32	2-0
750	40	600	800	50	£5
400	34	350	1,650	110	1,200

## FOR SALE.

**TORQUAY.**—Expiration of lease; the Stock and Fixtures of an old-established Chemist to be Sold at valuation only; a purchaser wishing to renew the lease would find ample scope to build up a business on modern lines in the district; rent about £30. Apply, Ness, 55 Market Street, Torquay.

We desire particularly to draw the attention of Colonial and Foreign Subscribers to the fact that in cases where they require partners, agents or assistants, or wish to sell their businesses, an advertisement in this Supplement, placed in every copy of "The Chemist and Druggist," should be the readiest means of helping them to attain their object. The tariff for such announcements is given under the appropriate headings in the Supplement Instructions and remittances can be sent to us direct or through the advertisers' correspondents in this country.

# MESSRS. BERDOE & FISH,

*Chemists' Valuers and Transfer Agents,*

35 JEWRY STREET, FENCHURCH STREET, CITY.

TELEPHONE: 1809 CENTRAL.

Have the following Businesses for Disposal. (No charge to purchasers.)

- 1.—YORKS (Inland Health Resort).—First-class Retail and Dispensing; returns £1,500; good profits; splendid position; elegantly fitted and fully stocked; price £1,150; worth attention.
- 2.—NORTH WALES.—Old-established Retail, in central position busy market town; returns over £1,600; net profit £455; books properly kept; stock and fixtures worth £1,000; price £1,200; part can remain.
- 3.—SURREY.—Good-class unopposed Retail and Dispensing Business; returning about £650; net profit £200; convenient house; well fitted and stocked; price £550.
- 4.—WEST MIDDLESEX (Death Vacancy).—Good-class Business; unopposed; healthy locality; returns £750, was doing £900; net profit about £300; attractive Pharmacy; good house; price £675.
- 5.—CHESHIRE.—Good-class Retail and Dispensing Business, in most pleasant locality; returns £650 to £700; net profit fully £200; scope for increase; attractive Pharmacy; price £500, or valuation.
- 6.—WEST OF ENGLAND.—Old-established Retail Business, in small town; returns over £500, and increasing; low rent; good house; large shop, fully stocked; price £400.
- 7.—LIVERPOOL.—Light Retail and Prescribing, with Optics; returns £780; net profit over £200; splendid position; modern shop, well stocked; nice house; price £300; worth attention.
- 8.—LONDON, N.—Good-class Cash Retail, Dispensing, and Prescribing Business; returns over £1,550; net profit £400 clear; good main-road position; stock and fixtures worth £900; price £1,100.
- 9.—LONDON, W.—Good-class Suburban Retail and Dispensing Business; returns about £1,000; net profit £320; large house and garden; main-road position; price £700.
- 10.—SOUTH WALES (good Market Town).—Good-class Business; returns average £1,650; net profit £400 under manager; modern-fitted shop, heavily stocked; large house; price £800, below valuation; worth attention.
- 11.—CO. DURHAM.—Unopposed Light Country Retail in pleasant town; returns £656; net profit £223; convenient house; low rent; price £300, or valuation.
- 12.—KENT.—Sound Light Retail Business, in best position; returns £1,400; net profits £314; books kept by accountant; good premises; own property; price valuation, about £750.
- 13.—EASTERN COUNTY.—Sound unopposed Village Business; no Oils or Paints; returns £750; net profit £300; low rent; nice house and large garden; price £525.
- 14.—GLAMORGANSHIRE.—Unopposed Light Retail, in rapidly growing district; returns £828; plenty of scope; net profit about £250; own property; selling through failing health; price £350; stock and fixtures worth £450.
- 15.—SOUTH YORKS.—Well-established Business in large town; returns £950, increasing; changed hands once in 40 years; illness sole cause of sale; valuation required, about £375.
- 16.—WILTSHIRE.—Old-established Light Retail, with Wines and Spirits; in same hands many years; returns about £900; plenty of scope; well-stocked shop; good house; price £600.
- 17.—LONDON, N.W. (10 miles out).—Good-class Family Retail, in best position of rapidly growing district; returns £1,100, increasing; elegantly fitted, fully stocked; modern house; price £950.
- 18.—LONDON, S.E.—Good-class Retail Business; no side-lines; returns £950; net profit £258; books properly kept; well fitted and stocked; price £650, or valuation terms arranged.

**BUSINESSES WANTED.** We have a large number of cash buyers waiting to invest from £500 to £2,000, in sound concerns, and intending vendors are cordially invited to write for our terms. No sale, no charge.

**VALUATIONS FOR STOCKTAKING.** We undertake this work at a very low rate. Please write for our new and revised terms. 42 years' practical experience. See page 150 in "The C. & D. Diary, 1912."



# THOS. TOMLINSON & SON, CHEMISTS' VALUERS AND TRANSFER AGENTS,

45a Market Street, Manchester

Telegraphic Address: "TOMTOM."

Have a number of businesses for disposal privately, the owners not desiring them to be advertised and also the following:

- 1.—ESSEX (Seaside Resort).—Returns £700; only 2 Chemists; rent £24, with house; price £400.
- 2.—YORKSHIRE.—Returns £900; handsome Pharmacy, with house, in pleasant neighbourhood; price £750; under real value.
- 3.—YORKSHIRE.—Returns £2,060, and increasing; all Retail; splendid position in city; death vacancy; price, valuation; roomy house.
- 4.—SOUTHPORT.—Returns £710; good Mixed Business; valuation only.
- 5.—TRAFFORD PARK, MANCHESTER.—Returns £500; price £300.
- 6.—RISHTON, Lanes.—Returns £800; rent £26; valuation terms could be arranged; good house.
- 7.—WREXHAM.—Returns £1,624; General Mixed trade; good house.
- 8.—DENTON, near Manchester.—Returns £600, steadily increasing; owner bought larger business; rent £28, with house; price valuation, about £400.
- 9.—GLAMORGAN.—Returns £1,700; price, valuation; rent £60; 12-roomed house.
- 10.—MANCHESTER.—Returns £785; nice Pharmacy, in Suburbs; price, valuation, about £300.
- 11.—NEWPORT, Salop.—Returns £600; price £500; in main street; handsome shop; good house.

Buyers in books wanting businesses in special districts.

## BUSINESSES for DISPOSAL

3s. 6d. for 50 words or less: 6d. for every  
10 words or less beyond, prepaid.

### COLONIAL BUSINESSES.

We call the special attention of our Colonial subscribers to the opportunity this Supplement affords when they wish to dispose of their Businesses, of getting into touch with likely buyers either at home or in the Colonies.

LETTERS in reply to Advertisements may be addressed to this Office, and will be forwarded to the Advertiser for an additional charge of 6d.

Trade circulars, samples, and printed matter can in no case be forwarded.

**ACCRINGTON.**—Nice clean Business for Sale; good stock; splendid fixtures; only wants seeing; reason of selling, developing Wholesale; part cash can remain; price about £230, or nearest offer. Write, Heaton, Chemist, Accrington.

**ASTON MANOR, Birmingham.**—Neglected Business for Sale in a busy thoroughfare; well-fitted shop and good house; an exceptional opportunity for a pushing young man about to commence business; grand chance for Dentistry, Photography, and Optics; a very low price will be accepted, as it must be sold. "Rhei" (124/37), Office of this Paper.

**BIRMINGHAM.**—Very old-established Chemist's and Druggist's Business for Sale; exceptional terms to enterprising man; illness sole cause of disposal. Apply, F. London, Accountant, 227 Birchfield Road, Birmingham.

**CHESTER (near).**—Profitable Business; centre of good town; returns between £1,500 and £1,600; net profit 1911 exceeded £450; excellent prospects; plenty scope; good prices; thoroughly sound; trial allowed intending buyer; owner must go abroad for few years; willing to sell, or under proper conditions prepared to leave a few hundred pounds in business at 5 per cent., but unless able to invest £600 upwards please do not reply. 124, 25, Office of this Paper.

**DERBYSHIRE.**—Returns £535; nicely fitted lock-up cash Pharmacy in Mining Village; population £5,000; sole Chemist; living assured; no old stock; stock kept up; ordered this week 6 Winchester's Tr. Oil, 2 Barrels Cotton Oil, 10 gals. Turps; Drugs £5 for stock; total expenses £20; will dispose of Mahogany Fittings and stock valued at £350 for immediate sale £200 cash. 123/24, Office of this Paper.

**DURHAM COUNTY.**—Pleasant Country Village; unopposed; Light Retail; returns about £700; good opening for Optics; convenient 7-roomed house, private entrance; rent £23; price £250, or valuation. Apply, H. H. Smith (Hirst, Brooke & Hirst, Ltd.), Leeds.

**HULL.**—Prescribing, Mixed Drug Business for Disposal; corner shop; thickly populated district; old established; present hands 14 years; average 3 years £500 yearly; good house; rent £26 and rates; owner bought other business, selling at sacrifice; £200; books can be seen for proof. "Rex," Messrs. Lofthouse & Saltmer, Druggists, Hull.

**KENT.**—Unopposed good Country Business in charming and healthy district; returns between £600 and £700; net profit £200 to £300; entirely under manager; rent under £30; nice house and garden; same hands many years; death cause of selling; price £450. Address, "W. W." (127/201), Office of this Paper.

**LONDON.**—Wholesale Chemist's, Druggist's, and Hairdresser's Sundries Business for Disposal; 18 years established; proprietor going abroad; price is value of stock and fixtures, etc., about £400 to £500. 124/1, Office of this Paper.

**LONDON Suburb.**—Cash Retail, Dispensing, and Prescribing; in fine shopping centre; returns nearly £1,600; net profit £400; elegantly fitted Pharmacy and well stocked; good house; long lease; valuation of stock and fixtures required, about £1,000; trial allowed if wished. "Bona-fide" (127/210), Office of this Paper.

**MIDLAND COUNTIES.**—Business for Sale; working-class neighbourhood; good position for Dentistry and Store business; also Suburban Business; good house and garden; owner giving up business. 126/2, Office of this Paper.

**MIDLANDS.**—Suburban Business, established and managed by female 15 years; no opposition; population 6,000; rent and rates £23; stock and fixtures, etc., £80; rare opening for a young qualified man; splendid position for National Insurance Dispensary; agents not acknowledged; bona-fide buyers only. Address, "Rachel," Daniels, Babington Lane, Derby.

**SCOTLAND (South).**—Exceptional opportunity; old-established Dispensing, Prescribing Business, nearly half a century; country market town; changed hands thrice; in vendor's hands nearly 17 years; few Patents; very profitable; easy going; good reasons for disposal; terms could be arranged to suit purchaser; Dentist consults; Photography, Optics could be added. Apply, 123/29, Office of this Paper.

**SHEFFIELD (near).**—Old-established Business for Disposal; little opposition; failing health compels sale; main-road position; under unqualified management; capable of large increase under qualified; good house and shop; well stocked; low rent; returns £8 10s.; price £220, or near offer considered. 124/16, Office of this Paper.

**SOUTH COAST.**—Good-class Dispensing Business; returns £1,314, increasing; 2,650 new Prescriptions last year; net profit £440; rent £65; price £1,200; shop well fitted and stocked; owner bought larger business. Apply, "Chemist," Southside, Chorley Hall Lane, Alderley Edge.

**SOUTH COAST.**—Established 1865; sale through death; handsomely fitted shop, well stocked, main road; rent £50; Wine License; high-class; average returns £750; net profit £250; 550 new Prescriptions copied yearly; large demand for own Preparations; convenient house, thorough repair; fair prices obtained. Apply, H., c/o British Drug Houses, London.

**SOUTHPORT.**—Very nice Light Retail and Dispensing Business; returns £460, and during the last 8 weeks £16 taken in Dentistry, and splendid scope for this, also Photo, and Optics; net profit £125, and 75 per cent. additional on Dentistry; rent £45; same hands 12 years; price £275. Write, "Nevill" (115 50), Office of this Paper.

**SUSSEX.**—Good-class Light Retail, Dispensing, and Family Business, in principal thoroughfare of high-class Seaside resort; returns £1,100, with scope for doing at least £1,500; excellent house; attractive Pharmacy; valuation only required, about £700. Apply, "Codex" (127/21), Office of this Paper.

**SWANSEA.**—Chemist's Business, with Photography; established 44 years; suit pushing young man; rent £55; weekly takings average £16; last year's receipts £955; value of stock and fixtures £500; price £100; 8 years' lease; proprietor retiring. Apply, David Roberts, 19 Heathfield Street, Swansea.

**THAMES VALLEY.**—Dispensing, Photographic, and Optical Business; returns about £900; stock and fixtures worth £450; net profit about £250; low rent; some valuable Proprietaries; Chemist's business might be sold separately from Optical, either with or without house; or unqualified Partnership considered; price £550 all, or £450 without Optical; rent of shop £18 per annum, or of house and shop without Optical room £30 per annum, "Codex" (7/45), Office of this Paper.

**THE DUKERIES.**—Old-established profitable Business; unequalled; returns £1,002; vendor retiring; price £750. Apply, H. H. Smith (Hirst, Brooke & Hirst, Ltd.), Leeds.

**WEST-END Dispensing Business, with Family Retail; no side-lines; returning £850, at good prices; nice shop; solid mahogany fixtures; well stocked; beneficial lease on valuation terms. Full particulars (investigation invited), "Manna," 36 Woodstock Avenue, Golder's Green, N.W.**

**WEST RIDING.**—Chemist's Business, doing £550 per annum, with Post Office attached; in good artisan suburb of important town; P.O. easily pays rent; opening for Optics or Dentistry; lease may be had. "Ragner" (125/2), Office of this Paper.

**YORKSHIRE (West Riding).**—Profitable Light Retail; smart well fitted and stocked; unique position, main thoroughfare; returns £900; will accept valuation (about £560), or would entertain cash offer after thorough investigation; satisfaction guaranteed; splendid chance for young married man; good house; rent £45, lease. "Progress" (127/29), Office of this Paper.

**A BARGAIN for quick Buyer.**—Manchester. Suburban well-fitted modern Pharmacy for Sale; good-class and growing neighbourhood; profitable trade; turnover £500; capable of large increase; an exceptional opportunity for man with cash; genuine reasons for disposal. Apply, 126/16, Office of this Paper.

**BUSINESS for Sale, at a low figure, in centre of a good-class neighbourhood; no near opposition; satisfactory reasons for disposal; splendid opportunity for a pushing man. Apply, "S. E. W." (126/5), Office of this Paper.**

**DEATH Vacancy.**—Busy East-End street; same hands 24 years; long lease; rent £37; returns before the strike £600; house perfect condition; well stocked; what offers. 123/3, Office of this Paper.

**FAILING Health.**—Very good old-established Business, Dispensing, Prescribing, few Patents; good class; own Proprietaries produce £200 net profit; handsomely fitted double-fronted shop; stock good and well kept; good position in busy town; books properly kept in every detail; house large, well arranged; spacious Warehouse; price about £1,000. "Statim" (125/17), Office of this Paper.

**FOR Disposal, an exceptionally good and reliable Dispensing Business in select residential neighbourhood; returns £2,300, increasing; references will facilitate business. Apply, 16/33, Office of this Paper.**

**FOR immediate Disposal, Business, in good position, Sutton Coldfield, Birmingham; lowest possible terms to immediate purchaser. Apply, Le Dain, Erdington, Birmingham.**

**I HAVE not Disposed of my Business in the main street at Lincoln yet; will accept a fixed price or a fair valuation. Apply, D. Jones, 397 High Street, Lincoln.**

**IN consequence of ill-health, a Dispensing, Prescribing, and good Retail in high-class country district; population 3,000; no other Chemist; the business is rapidly increasing; present returns about £770 per annum, and offers rare chance to anyone desiring snug business and free from worry and competition; low rent. Apply, J. Gny, Boughton House, Chester.**

**OLD-ESTABLISHED Business, with Medicated Wine Licence; principal thoroughfare to the Station; 4 Proprietary Preparations attached to the business, which may be separated; advertiser, after being in business nearly 50 years, wishes to dispose of same; personal interview necessary; a rare opportunity for two energetic young fellows. Ashford, Chemist, Northampton.**

**£90.**—Suburban Business, working-class; has been somewhat neglected; useful opening for man with small capital; no near opposition. Write, 127/32, Office of this Paper.

**£350.**—Jacksdale, adjoining Codnor Park, Great Northern Railway Station, for Sale, with immediate possession; low rental; well-fitted Chemist's Shop, inclusive of stock-in-trade, fittings, etc. For order to view and further particulars apply 113/31, Office of this Paper.

**£1,740** returns; price £250; net profit £400; sound Light Retail in South Wales to be Disposed of quickly; rent very low; modernly fitted shop and large house; £400 can remain; splendid opportunity. Apply, "Wales" (15/65), Office of this Paper.

## SALES BY AUCTION.

**IN BANKRUPTCY AND UNDER A DEED OF ASSIGNMENT. BY ORDER OF THE TRUSTEE.**

**STOCK AND FITTINGS OF A CHEMIST.**

Wet and Dry Drugs, Scents, Soaps, Patent Medicines, Pills, Tablets, Proprietary Articles, Ointments, Combs, Brushes, Meat Extracts, Disinfectants, and Chemists' Sundries, Nests of Drawers, Dispensing-screens, Wall-cases, Shelves, Stock and Show Bottles, Carboys, etc.

**FANCY LEATHER GOODS.**

Solid Leather Writing-cases, Purses, Wallets, Card and Letter Cases, Glove, Handkerchief and other Boxes, Fancy Jewellery, Brushes, Combs, Photo-frames, Albums, Knives, Scissors, Companions, Jewelled Combs, etc., Stationery, Account-books, Pens and Pencils, which will be SOLD by AUCTION by

**MR. FRANK G. BOWEN** at his Sale Room, 62a Aldersgate Street, London, E.C., on THURSDAY, AUGUST 22, at 1 o'clock. On view day prior and morning of sale.

Catalogues of Messrs. Francis Nicholls, White & Co., Chartered Accountants, 14 Old Jewry Chambers, E.C., and of the Auctioneer.

**BUCKINGHAM, 24 CASTLE STREET.**

**TO CHEMISTS, DRUGGISTS, AND OTHERS.**

**THOMAS OSBORNE** is instructed by the Executor of the late Mr. George Kingerlee to SELL by AUCTION, at the Assembly Rooms, Swan and Castle Hotel, Buckingham, on SATURDAY, AUGUST 31, 1912, the valuable BUSINESS PREMISES and DWELLING-HOUSE, as occupied by the late Mr. George Kingerlee as a Chemist and Druggist for many years past, together with the goodwill and stock-in-trade.

The above affords a good opportunity for the purchase of an old-established Business.

Solicitors, Messrs. Whitehorns & Law, Buckingham. Auction and Estate Offices, Wolverton, Stony Stratford, and Buckingham.

## TO LET.

**HORSHAM.**—To be Let, in an excellent position, a capital Shop, with Dwelling-house; possession September 29; good opening for Chemist. Apply, John Churchman & Sons, Estate Agents, Horsham.

**SLOUGH, Bucks (18 miles from Paddington).**—Good opening for Chemist in one of main streets; new double-fronted Shop with dwelling-house, back entrance, garden, gas, water, good sanitation; ready for occupation; rent £45; rates low; seen by appointment. Edward Bowyer, Estate Agent, Slough.

**TO Chemists and Druggists.**—Sale (Manchester).—Shop on main thoroughfare, adjoining Railway Station; other tenants in block suggest that a Chemist and Druggist would find good opening. Messrs. Radcliffe, Solicitors, 37 Moorfields, Liverpool.

**60 FORTUNE GREEN ROAD, West Hampstead, N.W.**—Excellent opening for a Chemist (this business not being represented in the immediate neighbourhood); shop and 7 rooms; rent £55 per annum on lease. Apply to Owner, Sandown, Finchley Road, Golder's Green.

## BUSINESSES WANTED.

**ADVERTISER** is prepared to purchase a good-class Business; Colwyn Bay or district; state full particulars; must bear accountant's investigation. Apply, 125/22, Office of this Paper.

**LIGHT** Retail Dispensing Business, preferably in the Lowlands of Scotland, yielding annually about £300 net profit; cash ready. Particulars to 129/8, Office of this Paper.

## AGENCIES.

**HOLLAND.**—Firm, well known and having excellent connection with Chemists and Druggists in whole Netherlands, want Agencies for first-class houses; Specialities and other general lines. Apply, "Holland" (15/56), Office of this Paper.

**INDIA.**—Travelling Representative of several well-known firms is open for one or two additional Agencies; sailing in September to work native and European trade in all business centres; highest references and guarantees. Communicate with "R. C. L., Craig's Court House, Charing Cross, S.W.



## PARTNERSHIPS.

**CAPSULES.**—Wanted, Partner (or arrangement with Wholesale house) with view to extending the manufacture of Gelatine Capsules; advertisers have a connection of several years' standing, showing a steady increase; moderate capital only required; correspondence strictly confidential. Address "P. W. 143," c/o Deacons, Leadenhall Street, E.C.

**DRUG** and Produce Broker, 15 years' standing, wishes to Dispose of goodwill of business, wholly or Partnership; good connections in France and America; seller going abroad for health reasons, but would remain some time to introduce buyer; accountant's figures; principals only dealt with. 124/14, Office of this Paper.

**JUNIOR** as Partner in good-class Dispensing and Photographic business; entire control; capital required about £225; return £2 per week and half net profits annually, about £50. Apply, 7/450, Office of this Paper.

**MANAGER** wanted as Partner; must be a smart, up-to-date man, with good credentials and invest £100 to £150; one that can Extract preferred, but not essential. State whether qualified or unqualified to 120/16, Office of this Paper.

**PARTNER** required for good Dispensing business near Liverpool (2 shops); £400 to £600 required; or Manager willing to invest £200 in the business. Address, "Veritas," c/o Evans Sons Lescher & Webb, Hanover Street, Liverpool.

**£3,000**—£5,000.—Businesses wanted by Chemist; a Partnership or long introduction; old-established Mixed trade preferred; must be in healthy district; capital ready waiting; advertiser (39), experienced, business-like, capable, act as Manager for owner retiring, with ultimate purchase; references to prominent Retailers and Wholesalers before giving figures. "Secrecy" (123/21), Office of this Paper.

## SITUATIONS OPEN.

**3s. 6d. for 50 words or less; 6d. for every 10 words or less beyond, prepaid.**

**NOTE.**—Replies can be addressed to this Office and forwarded to the Advertiser for an Additional charge of 6d.

### TO SAVE TROUBLE.

**MANY** correspondents answering advertisements in this Supplement enclose remittances to cover the cost of forwarding their letters to advertisers who prefer to be addressed c/o this Office. The Publisher desires to make it clear that this is quite superfluous, and perhaps this reminder will obviate the necessity of the frequent return by him of such remittances.

### ANSWER IN TERMS OF THE ADVERTISEMENT AND

**REMEMBER** you are one of possibly hundreds applying for the same position. Put your case before the advertiser so that he may be able to form a MENTAL PICTURE of your suitability.

**BE BRIEF BUT CLEAR.**—Millions of applications are consigned to the waste-paper basket UNCONSIDERED, because the reader cannot form this picture from the inadequacy of the materials set before him.

## RETAIL.

**BATH.**—Wanted, smart, gentlemanly Assistant; unqualified; must be neat and accurate Dispenser and good Salesman; high-class Store; short hours; weekly half-holiday; no Sunday duties. Apply, with full particulars, references, salary, etc., to Cater, Stoffell & Fortt, Ltd., Bath.

**BECKENHAM.**—Junior; Dispensing, Photographic, and Light Retail; two hours' duty alternate Sundays. Usual particulars, etc., to Lewis, 91 High Street, Beckenham, Kent.

**BRIGHTON.**—Messrs. Black & Co., Photo's and Opticians, 81 St. James's Street, require smart Junior Assistant (20-25); one used to Dispensing and Stock. When applying please give full particulars, salary required (outdoors), and enclose photo if convenient; Juniors wanting a permanency preferred; good chance to learn the Optical business.

**BRIGHTON.**—In a few weeks, a gentlemanly capable First Assistant; qualification not essential, but must have had good Dispensing experience; comfortable; indoors; reasonable hours. Apply, with usual particulars, to 127/10, Office of this Paper.

**DONCASTER.**—An outdoor Assistant required in a good General Family business. Apply, with photo, stating age, height, experience, references, and salary, to M. H. Stiles & Son, Doncaster.

**EASTBOURNE.**—Assistant wanted; indoors; well up in Dispensing. Send usual particulars, C. H. Temple, 83 South Street, Eastbourne.

**HULL.**—Wanted, unqualified Assistant for Branch; must be good Counterman, Extractor, Dispenser; outdoors; would entertain Manager with view to succession. State fully references and salary required to Spilman, Chemist, Holderness Road, Hull.

**LEICESTER.**—Qualified Branch Manager wanted, to commence August 26; Light Retail, little Photographic and Dispensing. Send all particulars, references, salary required (house and gas found), to Wilby, Chemist, 124 Humberstone Road, Leicester.

**LIVERPOOL.**—Junior Assistant wanted immediately; whole or part time; would suit Minor student. S. Stephenson & Co., Ltd., 98 Kensington.

**LANDUDNO.**—Wanted immediately, Junior Assistant; indoors; knowledge of Photography essential. Apply, T. Esmor Hooson, Ltd., Chemists, Llandudno.

**LONDON, N.W.**—Experienced Assistant wanted; must be a neat, quick, and accurate Dispenser, a good Salesman, and accustomed to good-class business; age about 25; outdoors; only one kept; personal application preferred. If by letter, give full particulars, stating salary, and enclose photo, T. F. Elton, 28 Endsleigh Gardens, Euston Square, N.W.

**LONDON, W.**—Immediately, Junior Assistant for Dispensing and Counter. Apply, personally or by letter, to J. Munro & Co., 275 Regent Street, W.

**LONDON, N.W.**—Wanted, qualified Assistant, young, energetic, good Dispenser, and knowledge of Photography; indoors. Send photo and references, E. R. Marsh, Ltd., Dispensing Chemists, 270 West End Lane, West Hampstead, London, N.W.

**LONDON, S.E.**—Junior Assistant for Dispensing and Light Retail; indoors; day off weekly; near Schools; accuracy essential. Apply, with full particulars, photo if convenient, age, salary, etc., H. W. Neatherecoat, 60 Denmark Hill, S.E.

**LONDON, N.W.**—Junior Assistant; indoors; good Salesman and Window-dresser; 5 hours' Sunday duty on alternate Sundays. Personal application preferred; if by letter give full particulars of previous experience, stating salary required, enclosing photo (which will be returned), Charles W. Brumwell, 72 Euston Square, N.W.


# RESULTS

OF ADVERTISING IN THIS SUPPLEMENT

LAST WEEK AUG 10 1912

NATURE OF ADVT.      REPLIES

MAN FOR WHOLESALE	18
SIT. WANTED UNQUAL.	14
CHEMIST FOR WORKS	12
SIT. WANTED ASSIST.	10
TRAVELLER	10
ASSIST.	8



This Blackboard demonstrates that Advertisers using these columns get a ready response to their announcements. The figures only refer to some of the letters RECEIVED AT OUR OFFICE on behalf of Advertisers who use number or name de plume.



**LONDON, N.**—Immediately, outdoor Assistant for Dispensing and Light Retail; hours 9 to 8.30; alternate Sunday duty 6 to 9 p.m.; age under 26 years. State height, experience, and salary required, "Pharmacist" (124/12), Office of this Paper.

**LONDON HOSPITAL, WHITECHAPEL, E.**—Dispenser required; Minor qualification essential; age not to exceed 30 years; commencing salary £100 per annum; ladies ineligible. Application to be made (personally preferred) to the Pharmacist on Friday, 16th inst., between the hours of 10 and 5, or Saturday or Monday following at 12 noon.

**LONDON, N.W.**—Assistant, unqualified, indoors, for Light Retail and Dispensing business; must be gentlemanly and of strictly steady habits; excellent references and experience. Apply, personally; if by letter give full particulars, Graham, Chemist, Station Parade, Cricklewood (opp. Willesden Green Met. Station).

**LONDON, S.W.**—Branch Manager required immediately; age 25-30; qualified; smart Salesman, good Window-dresser; indoor or out; good opportunity and permanency for suitable man. Apply personally to Barch & Co., Temperance Billiard Hall, Coldharbour Lane, Brixton, S.W.

**LONDON.**—Qualified Assistant; Photography, Store experience; permanency; outdoors; also unqualified Assistant; Counter-man, Window-dresser; outdoors. 127/35, Office of this Paper.

**MALVERN.**—Assistant (indoors), accustomed to good class of business and reliable Dispenser; one having a knowledge of Photography preferred. Apply, stating experience, salary required, age, height, and enclose photo if possible, to W. H. Jones, Pharmaceutical Chemist.

**MANCHESTER.**—Wanted, Branch Manager, married, live over premises; good house and healthy locality; one used to Store trade preferred; total abstainer; permanency. Send full particulars as to age, salary, and enclose photo, to "Aspirin," c/o Messrs. Oldfield, Pattinson & Co., Druggists, New Bridge Street, Manchester.

**MANCHESTER DISTRICT.**—Wanted, qualified Branch Manager; one used to Drug Stores preferred; must be of good appearance and competent to take sole charge; one desiring a permanency preferred. Send full particulars as to age, salary required, photo, and references, to "X. X.," c/o O. Harrison, Chapel Street, Victoria Bridge, Manchester.

**MANCHESTER SUBURB.**—Required, an experienced Assistant, well up in Dispensing, about 24 years of age. Apply, stating experience and salary required (outdoors), with recent photo, to "Pharmacist," c/o Messrs. Oldfield, Pattinson & Co., New Bridge Street, Manchester.

**MANCHESTER.**—Unqualified Assistant (married) wanted for a good-class Retail and Dispensing business, to live over premises; must be a good Counterman and Window-dresser; permanency and progressive salary for a suitable man. Apply, with full particulars, to "X. Y. Z.," c/o John Quilliam & Co., Ltd., Victoria Bridge, Manchester.

**OLDHAM.**—Qualified Assistant for brisk Retail trade; must be quick and reliable, a good Salesman. State age, height, experience, references, and salary required, enclosing photo, 126/19, Office of this Paper.

**RICHMOND.**—Competent Assistant, qualified, about 24, for good-class Dispensing business. Apply, with full particulars, to J. Parrott, Richmond Hill, Surrey.

**TUNBRIDGE WELLS.**—Qualified Junior Assistant (indoors) for Dispensing business; principal non-resident. State usual particulars, salary required, enclosing photo, Howard & Son, Pharmacists, Tunbridge Wells.

**WALSALL.**—Capable Assistant, about 25, immediately, required for high-class business; references must bear strictest investigation. State salary required, and, if possible, enclose photo (to be returned) to Horace D. Hayward, Leicester Square, Walsall.

**WANSTEAD, N.E.**—Junior Assistant (outdoors) for good-class Suburban business. State age, height, experience, and salary expected to Matthews & Son, Chemists, High Street, Wanstead, N.E.

**WESTON-SUPER-MARE.**—September 10, Junior Assistant, capable Dispenser, in a Dispensing and Light Retail business. Send full particulars and photo to C. C. Lewis Wing, Ltd., 19 Wallisote Road, Weston-super-Mare.

**WESTON-SUPER-MARE.**—A reliable and competent Assistant required, abstainer; indoors; accustomed to good-class Retail and Dispensing. Send usual particulars, age, height, references, and salary required, etc., to Edwin Norman, Pharmacist, 35 High Street, Weston-super-Mare.

**WORTHING.**—Assistant wanted; unqualified; good-class business; seaside town. Send particulars, with references, to W. Aston, Pharmaceutical Chemist, Worthing.

**ASSISTANT** wanted for the month of September; outdoors. Photo and references to E. A. Holloway, Broadway, Southend.

**ASSISTANT** wanted for two weeks at end of August or in September; Minor student would be suitable. Write, stating terms, to Shields & Warreu, Chemists, St. Albans.

**ASSISTANT; outdoors; Dispensing, Photo, and Window-dressing.** Apply, stating salary required and full particulars, Jacklin, Hale, Cheshire.

**ASSISTANT; not necessarily qualified, but with good country experience; good Prescriber; indoors.** Please state age, experience, references, salary required, when disengaged, to E. A. Tilley, Chemist, Thetford.

**ASSISTANT (young)** wanted immediately, either qualified or unqualified, who has had good experience in Counter and Dispensing. Apply, stating full particulars as to height, age, salary (outdoors), and enclosing photo if possible, to F. J. Janes, Chemist, Aylesbury.

**AT ONCE.**—A capable Assistant, thoroughly industrious (outdoors), with good references; abstainer preferred; wages 25s. per week. Full particulars, etc., to King Bros., Wholesale Chemists, Wolverhampton.

**BRANCH Manager, qualified, for Seaside village on South Coast;** must be abstainer and possess undeniable references; elderly married man preferred, to live on premises; small, steady winter trade, brisk but short season. Please state fullest particulars in first letter, salary required, etc., and enclose photo, Horton, Chemist, Chichester.

**BRANCH Manager, qualified; also qualified and unqualified Assistants required at an early date; satisfactory references; no Sunday duty; half-holiday weekly.** Age, salary, references, and photo to Managing Director, Henry Hodder & Co., Ltd., 5 Nelson Street, Bristol.

**HOLIDAY Assistant (outdoors), Junior or otherwise, unqualified, for a fortnight; hours easy; weekly half-holiday; no Sunday or night duty; good-class Mixed business; terms must be reasonable; commence any date within a month or so.** Apply, with terms, references, etc., to A. Vawser, Ph.C., Market Place, March.

**JUNIOR Assistant required.** Please state age, height, experience, references, when disengaged, and salary required in first letter, to Bishop & Vincent, 460 Holloway Road, London.

**JUNIOR in Light Retail and Dispensing; indoors; 4 afternoons off weekly for study.** State age, usual particulars, and salary required, A. Peel, Pharmacist, 7 Half Moon Lane, Herne Hill, London, S.E.

**JUNIOR (indoors) first week in September; good-class Dispensing and Photographic.** State salary required to A. Cartwright, Pharmacist, Henley-on-Thames.

**JUNIOR Assistant, early in September, for Dispensing and Photographic; unqualified.** State age, height, salary (indoors) to Cooper, 107 London Street, Reading.

**JUNIOR or Improver; outdoors; good-class Retail, Dispensing, and Photographic.** Particulars, including age, height, experience, salary expected, when disengaged, references, and photo if possible, to Matthews (Cash Chemists), 146 Hoppers Road, Winchmore Hill, N.

**JUNIOR Assistant wanted at once in up-to-date Store.** Send references and salary required, Blunts, Ltd., Northampton.

**JUNIOR (21-23), accustomed to good-class Dispensing and Photographic business, wanted, chiefly for Dispensing; outdoors; no Sunday duty.** Apply, stating age, height, experience, and salary required, 127/31, Office of this Paper.

**LEWIS & BURROWS** have vacancies for two or three really first-class Assistants. Please apply, by letter, enclosing photograph, to 146 Holborn Bars, E.C.

**LOCUM** wanted at once for about a fortnight; must be really capable and used to country trade. Apply, with full references, Ellwood & Son, Chemists, Leominster.

**LOCUM** wanted for three weeks from September 2. Apply, with usual particulars, to J. F. Fowle, Chemist, Holbeach, Lincs.

**LOCUM Dispenser (Lady), Hall certificate, wanted for Hospital, London, E., from about 22nd inst.; Hospital experience necessary; salary £2 2s. and lunch per week; no Sunday or evening work.** Apply, 16/73, Office of this Paper.

**LOCUM required (outdoors) for a fortnight; qualified and thoroughly reliable.** State age, experience, salary required, and references to Mr. Hodges, 164 Rushey Green, Catford, S.E.



**LOCUM** for September 5 to 17 inclusive, qualified, and of good experience, for high-class trade. State full particulars as to experience and salary, Manager, H. Lamplough, Ltd., 165 Strand, W.C.

**MANAGER**, qualified, good Extractor, sober, for first next month. References, age, etc., to W. H. Wilkins, Perry Barr, Birmingham.

**MANAGER**, with good modern experience, required for North-West London Suburban business; good prospects. Apply, with full particulars, enclosing photograph, to 110/12, Office of this Paper.

**MESSRS. BARNARD & SON**, 309 Hackney Road, London, have a vacancy for a Junior; one accustomed to a middle-class Store trade preferred; 2 kept; half-day off weekly. State salary (indoors), when disengaged, references, etc.

**PARKE'S DRUG STORES, LTD.**, require qualified Branch Manager, about 27 to 35 years of age; must have a knowledge of Photography and possess business tact and management; commencing salary £156 per annum and commission; also a smart Junior wanted. Personal application Tuesday or Wednesday at 10.30 a.m., or apply by letter, with fullest particulars, to 65 Harwood Street, N.W.

**QUALIFIED Locum** required in London Store business from September 2 to 14 inclusive; short hours; permanency would be offered to suitable man. Write, "S. S." (15/25), Office of this Paper.

**QUALIFIED Assistant** wanted for Dispensing and Light Retail; knowledge of Photography preferred; outdoors; age 25-30. Apply, with usual particulars, to Perrett & Co., 25 Devonshire Road, Bexhill-on-Sea.

**QUALIFIED Assistant**, about 25; excellent opportunity for one seeking Optical experience; must be good Salesman and Dispenser. State full particulars, experience, and salary required (both indoors and outdoors), enclosing photo, Sydney F. Body, Broadway, Southend-on-Sea.

**QUALIFIED Assistant** wanted, of good appearance and address, as Senior, age about 28; must be smart Counterman, with first-class knowledge of Photography. State fully experience, age, height, salary required (outdoors), etc., to J. F. Collin, Pharmaceutical Chemist, Market Place, Norwich.

**QUALIFIED Dispenser (male)** required from August 24 to September 7, for Dispensing only; age not over 30; wages 30s. per week, with board and washing. Apply or write, "Doctors," 32 Bedford Hill, Balham.

**QUALIFIED man**, about 30, as Branch Manager; commence duties about August 25. Waller & Riley, Ltd., Chemists, Bolton.

**SYMES & CO.** require a qualified Assistant, accustomed to good-class Dispensing, about 25 years of age; outdoors. Apply, with full particulars, to 14 Hardman Street, Liverpool.

**UNQUALIFIED**.—Wanted at once, smart unqualified Assistant; must be fair Dispenser; good Salesman essential; preference given to one with knowledge of Photography and good Window-dresser; good opportunity for smart, energetic man with ambition; permanency. Watsons, Photographic Chemists, 84 High Street, Sheffield.

**WANTED**, early in September, qualified Assistant; outdoors; permanency; good Dispenser, knowledge of Photography. Send usual particulars, photo if possible, Turner, University Pharmacy, 36 Trinity Street, Cambridge.

**WANTED**, a gentlemanly Junior as Third Assistant in a Dispensing business; outdoors; must have passed Preliminary examination, be well recommended, and served a regular apprenticeship to a Pharmacist. Apply, giving full particulars, and send photo, to D. L. Lewis, Chemist, Ealing, W.

**WANTED**, an Assistant for the Retail Counter; outdoors. Apply, giving full particulars, to D. P. Roberts, Chemist, 120 North End, Croydon.

**WANTED**, next month, for a County Hospital, qualified Assistant Dispenser (Male); commencing salary £84; live out; part board; good opening for smart young man. Forms of application and particulars to be had of the Secretary, East Suffolk Hospital, Ipswich.

**WANTED (immediately)**, unqualified Junior for Light Retail, Dispensing, and Photographic; permanency. State full particulars as to experience, age, height, salary required (indoors), and enclose photo and references to P. R. Hill, Ph.Ch., 90 High Street, Gorleston-on-Sea.

**WANTED** at once, a smart Junior Assistant; indoors; must have had Dispensing experience and well recommended. Apply, with full particulars, and if convenient enclose photo, to P. Stacey, Pharmaceutical Chemist, High Street, Teddington, S.W.

**WANTED**, a qualified Assistant in September for a good-class Retail and Dispensing business, with knowledge of Photography; live out. Apply, with full particulars, Sanderson, 45 Westbourne Grove, West Kirby.

**WANTED**, London, S.E., qualified Manager for Branch; salary moderate; commission 5 per cent. and 7½ per cent.; live out. Apply or write, H.O. Drug Co., Ltd., 78 Upper Tulse Hill, Brixton Hill, S.W.

**WANTED**, Dispenser to Doctor; indoors or outdoors; morning and evening; time for reading; male applicants only. Apply personally, 68 Leaman Street, Aldgate, morning or evening.

## WHOLESALE.

**DESPATCH Department**.—Wanted at once, smart Despatch Clerk, one used to Perfumery trade preferred; a Packer also required for same department. Write, stating age, experience, and wages required, to Secretary, Crown Perfumery Co., Sidney Road, Homerton.

**JUNIOR Invoice Clerk** wanted; must have some knowledge of the trade and be a neat, quick, and accurate worker. State age, experience, and salary required to 13/1, Office of this Paper.

**LADY Clerk**, about 18, required for Invoicing; previous experience in Drug trade a recommendation, but applicant must be a good and quick writer and smart at figures. Full particulars and salary required to 13/23, Office of this Paper.

**REPRESENTATIVE** or Agent for Scotland for a complete range of high-class Packed Toilet goods; must have had experience in similar lines and possess a good connection with Chemists and best Hairdressers. Apply, Van Essen, James & Co., Ltd., 100 Bernonsey Street, London.

**REQUIRED**, by London Manufacturers, Traveller for Tooth and Toilet Brushes; connection with Chemists and Stores essential; knowledge of Brush trade an advantage; London and provinces; salary and commission. Apply, 127/7, Office of this Paper.

**TRAVELLER** for Midlands and Northern Counties, with good connection, for Packed goods, Toilet and Medicinal Sundries. Apply, "Marlor" (14/42), Office of this Paper.

**TOWN Traveller**.—First-class man required, with good connection amongst best Chemists and Stores, etc. State full particulars, by letter, as to salary required, previous experience, etc., to "Trex," c/o Messrs. Sutton & Co., 76 Chiswell Street, E.C.

**WANTED**, a capable man with good all-round experience in the Manufacture of Proprietary Articles and Pharmaceutical Preparations; permanency and good opening to the right man not afraid of work. "Specialities" (257/45), Office of this Paper.

**WANTED**, Travellers to take high-class Toilet Preparations as side-line, on commission; good remuneration; all replies treated in strict confidence. The Kai-Panee Co., Beamister, Dorset.

## SITUATIONS OPEN

(Colonial, Indian, and Foreign).

**3s. 6d. for 50 words or less; 6d. for every 10 words or less beyond, prepaid.** Replies addressed to this office will be forwarded to the advertiser for an additional charge of 6d.

**BRUSSELS**.—Wanted, till end of year or Christmas, experienced Assistant; accurate Dispenser; outdoors; tall and good handwriting; give full particulars, stating salary, references, enclose photo; one with some knowledge of French preferred. 81/24, Office of this Paper.

**CAPE COLONY**.—Required immediately, qualified Assistant, age about 24; total abstainer preferred; must have good Dispensing experience and with a knowledge of Photography; salary first year £160 per annum, second year £180, third year £200; free quarters provided; three years' agreement; second-class passage paid out. Apply, by letter, with full particulars, to "F. J. G.," c/o Messrs. C. J. Hewlett & Son, Ltd., 35-42 Charlotte Street, Great Eastern Street, London, E.C.

**NATAL**.—Qualified Assistant required, salary £18, £19, and £20, for 3 years' agreement; second-class passage paid; total abstainer; excellent references required. Apply, 16/5, Office of this Paper.

**ASSISTANT**; qualified; fluent French and Continental experience. Age, height, and salary to "Parilond" (20/100), Office of this Paper.

# SITUATIONS WANTED.

1s. for 12 words or less; 6d. for every 10 words or less beyond, prepaid.

NOTE.—Replies can be addressed to this office and forwarded to the Advertiser for an Additional charge of 6d.

## [HOME]. RETAIL.

**ASSISTANT**; 34; single; smart, experienced Dispenser; all good-class Retail and Dispensing experience; commencing salary at 35s. (outdoors). "Midland," 22 Rosefield Street, Leamington Spa.

**ASSISTANT**; 22; 5 ft. 7½ in.; best Dispensing, Counter experience; good references. 126/7, Office of this Paper.

**CAPABLE** Assistant or Manager (with view to succession); age 29; single; abstainer; unqualified; outdoors; 14 years' good Retail and Dispensing experience; Photography; 5 years present berth; thoroughly competent; disengaged end of August. "Velox" 125/12, Office of this Paper.

**CHEMIST-OPTICIAN** (30), married, seeks opportunity in established business; would finance Optical department; permanent, progressive interest sought; exceptional recommendations; experienced and capable. "Dioptric" (126/24), Office of this Paper.

**COMPETENT** Assistant or Manager; single; age 29; abstainer; unqualified; outdoors; 14 years' good Retail and Dispensing experience; Photography; 5 years present berth; disengaged end of August. "Aurora," 160 High Street, Ramsgate.

**DISPENSER**, Apothecaries' Hall (Lady), or Chemist's Assistant; experienced. L. Atkinson, Dispenser, Beckett Hospital, Barnsley.

**DISPENSER** (Lady) requires post; Apothecaries' Hall certificate; Dressings. Apply, Miss Thomas, Twyn, Nantgaredig.

**DISPENSER**; Locum or permanent; trained Nurse desires post; Hall qualification; Doctor or Institution; willing to help in Surgery; good references. 121/31, Office of this Paper.

**JUNIOR**; experienced; 6 years in high-class Dispensing business; disengaged October 5. 126/27, Office of this Paper.

**LADY** Dispenser; Doctor or Retail; 4 years' experience; highest references. 127/34, Office of this Paper.

**LOCUM**; permanency; immediate; good practical worker; abstainer; 49; single; unqualified; excellent references. "Chemicus," 66 St. Andrew's, Uxbridge.

**LOCUM**; 46; disengaged August 27; capable and experienced; abstainer. "Extractor," 21 Broadway Parade, Crouch End, N.

**LOCUM**; City, West End, Stores, and Hospital experience. "Statim," 14 Wansey Street, Southwark, S.E.

**LOCUM**; qualified; experienced; Dispensing, Photography; 34; disengaged; highest references. "W. S. C.," 12 Sydenham Terrace, Louth.

**LONDON**.—Unqualified (23½) desires three evenings off weekly after 5 p.m.; excellent experience, Dispensing, Counter, Photography (practical); disengaged month. 126/12, Office of this Paper.

**LOCUM**; qualified; reliable; all-round experience; disengaged one week from August 24; any distance. 16 Palace Gates Road, N.

**LOCUM**; qualified; disengaged; reliable; good experience. "Protargol," 22 Thorpebank Road, Shepherd's Bush, W.

**LOCUM**; qualified; 27; disengaged September 2. Howell, 1 Temple Terrace, Lampeter, Cardiganshire.

**LOCUM** Dispenser; 30; Minor qualification; Hospital or Institution; excellent testimonials and experience; disengaged August 26 till September 14. Write, "Statim" (124/18), Office of this Paper.

**LOCUM** or otherwise until November; qualified Extractor; fluent French. "Chemist," 77 Astonville Street, Southfields, S.W.

**M.P.S.**, D.B.O.A. (27), qualified Optician, married, requires position as Branch Manager; 11 years' all-round experience; Dispensing, Photographies, Prescribing; excellent references; permanency. "Optometrist" (124/11), Office of this Paper.

**MANAGER** or Locum; unqualified; 4 years in last situation; specially good in Proprietary selling. Reynolds, 112 Crescent Road, Woolwich.

**MANAGER**; steady, reliable, energetic; good all-round experience; good references; unqualified; moderate salary. "Chemist," 1 Egerton Grove, Stretford Road, Manchester.

**MANAGER**; Liverpool; 20 years' Liverpool experience; disengaged September. "Pharmacist," 63 Kensington, Liverpool.

**PART-TIME** or Relief; 29; disengaged September 16. "Experienced," 25 Cheriton Square, Upper Tooting, S.W.

**PART-TIME**; two or three evenings weekly; qualified; 32. "Radium," 100a Bellenden Road, Peckham.

**PERMANENCY**; Locum or Season; Parle francais; Photographies, Optics; Prescriber; age 39; disengaged. "Chemist," Maple House, Gosberton, Risegate, Spalding.

**PHARMACIST**; 27; West-End Dispensing experience; disengaged September 5. "S.," 436 High Road, Streatham.

**QUALIFIED** Manager; all-round experience; good references. "Pharmacist," c/o Ell, Dunster.

**QUALIFIED**; Manager or Locum; age 36; experienced. Gardam, 10 High Street, Halesowen.

**QUALIFIED**; Branch Manager or Locum; 14 years' high-class experience, London, provinces; disengaged August 30; abstainer; references. Taverner, York House, Hayward's Heath.

**QUALIFIED** Chemist; Manager or Assistant; 35; married; abstainer; 19 years' good all-round experience; now disengaged; would act as Locum. Elliott, 15 Hornead Road, Westbourne Park, London.

**QUALIFIED** man, with good varied experience, will be open for engagement shortly; view to partnership or share preferred, but not essential; single; any class trade or locality. "Bonafide" (125/32), Office of this Paper.

**QUALIFIED** German Chemist (24), speaking English, wants engagement; Pharmacy or Wholesale; London or provinces. C. Niederstadt, 21 Marsden Road, Peckham.

**QUALIFIED**; 46; Branch Manager or Assistant; Prescriber; disengaged; Bristol preferred. 123/28, Office of this Paper.

**QUALIFIED**; Locum Tenens; experienced; disengaged August 17; Valuation, Stocktaking, Sales negotiated, Balance Sheets prepared, etc.; highest references. J. W. Simpson, 51 North Road, West Bridgford, Notts.

**QUALIFIED**; 26; good Dispensing and Retail experience; Photography; permanency; disengaged. 124/15, Office of this Paper.

**QUALIFIED** Assistant; 30; Dispensing, etc. Robinson, 5 Sandon Street, near Falkner Square, Liverpool.

**SENIOR** or Assistant; 45; 10 years with last employer; good-class experience; disengaged. L. P. Erin, Fitzharris Avenue, Bournemouth.

**TEMPORARY**; thoroughly experienced; smart. Gibson, 115 Scott Ellis Gardens, St. John's Wood.

**UNQUALIFIED**; 16 years' experience; capable Dispenser, Counter, and Photography; energetic. "T.," Cartref, Warwick Road, Sutton, Surrey.

**UNQUALIFIED**, single, disengaged shortly; 20 years working-class business; very little Dispensing; good references. "F.," 40 Seymour Street, Euston, London.



**UNQUALIFIED** (age 35), height 5 ft. 9 in., smart appearance and address, desires post as Manager or Assistant (with or without view to succession); West-End experience; life abstainer. "K." (127/13), Office of this Paper.

**UNQUALIFIED**; disengaged; Senior Assistant or Manager of Drug Stores; thoroughly reliable and experienced; married; good references. "B.", 68 Thirlwell Road, Sheffield.

**UNQUALIFIED**; 22; good Dispensing and Photographic experience; excellent references; disengaged September 23; London district preferred; outdoors. Martret, Sunnyside Cottage, Exeter Road, Bournemouth.

**UNQUALIFIED**; 36; 5 ft. 11 in.; married; 3½ years present, 10 former; experienced; Photography speciality; Dispensing, Counterman. Howes, Holme Drive, Farndon, Newark-on-Trent.

**UNQUALIFIED**; Assistant or Locum; age 42. C/o S. Paddon, Pharmacist, Attercliffe Road, Sheffield.

**UNQUALIFIED**; very capable; steady; 20 years' experience; disengaged in few weeks; 3 years last berth. "Chemicus" (124/4), Office of this Paper.

**WANTED**, to recommend a young Lady, aged 19, of good appearance, who has had two years' experience in a Chemist's business; well up in Photographic work; can copy Prescriptions, Dispense, put up Stock, etc.; very quiet and reliable; in- or out-doors. Apply, Ingham & Co., Chemists, Epsom.

## WHOLESALE.

Trade circulars, samples, and printed matter can in no case be forwarded.

**ADVERTISER** desires post as Traveller; 13 years' Wholesale and Retail experience. "A. E. B." (127/28), Office of this Paper.

**ADVERTISER**, qualified Chemist, 20 years' experience in Drug trade, both at home and in the Colonies, is open for engagement as Traveller or Colonial Representative. "Advertiser," 14 Elmdale Road, Palmer's Green, N.

**CHEMIST**, middle-aged, energetic, and of good appearance, would like to Represent good house on small salary and commission basis; has had successful travelling experience, but no present connection; good French, and would not object to travel abroad. Apply, 16, 43, Office of this Paper.

**EXCEPTIONALLY** experienced worker available; technical, commercial, administrative; successful foreign representation; extensive connection all lines still alive; investment if necessary. 125/25, Office of this Paper.

**EXPERIENCED** Traveller seeks re-engagement; thoroughly well known to Midland Chemists; would handle Soap, Perfumery, or Sundries; small salary and commission. 125/39, Office of this Paper.

**FOREIGN** Clerk, knowing Spanish, French, German, and a little English, requires situation; excellent references; last situation 4 years. Apply, 121/29, Office of this Paper.

**REPRESENTATIVE** or Agent, with good connection Belfast and North of Ireland; can command business for good firm; Drugs, Sundries, etc. 127/15, Office of this Paper.

**REPRESENTATIVE**.—Chemist (37), with connection in North England and Scotland, wishes to Represent a progressive firm or hold Agency for reliable articles; good references. 124/39, Office of this Paper.

**TRAVELLER** wishes to Represent enterprising house; only high-class saleable Specialities entertained (Medical, Chemists', or Veterinary); ground, North-Western Counties; allowance towards expenses and commission; highest references. "Phenol" (125/29), Office of this Paper.

**TRAVELLER**, doing big business, England and Wales, wants extra line; splendid references; grand results; small salary and commission. "Commission" (125/7), Office of this Paper.

**TRAVELLER**, experienced, well known throughout South Wales and West of England, with large connection, would like to Represent in addition a non-competitive first-class house on part expenses or commission basis if desired; excellent references. 122/29, Office of this Paper.

## SITUATIONS WANTED

(Colonial, Indian, and Foreign).

1s. for 12 words or less; 6d. for every 10 words beyond, prepaid. Replies addressed to this office will be forwarded to the advertiser for an additional charge of 6d.

This heading is reserved for assistants seeking situations in the British Colonies, India, and Dependencies or elsewhere abroad.

**PARIS**.—Qualified Chemist, with experience of Wholesale and office routine, desires position with Wholesale firm in France; some knowledge of French. Apply, 126/14, Office of this Paper.

**UNQUALIFIED**, good experience, good references, seeks engagement at once in India. "Q.", Red Cross Pharmacy, La Rochelle, Johannesburg.

## MISCELLANEOUS.

**MCADAM & TUCKNISS**, Sharedealers, Bank Chambers, Blackheath, S.E. Established 1898. Telephone 81 Lee Green.

SHARES FOR SALE (free of commission, subject).—100 Idris "A" 6 per cent. Preference, 5s. 1½d.; 150 John Knight Ordinary, 21s. 7½d.; 300 A. J. White 6 per cent. Preference, 8s. 6d.; 500 Ordinary, 1s. 2d.; 300 Schweppes' Deferred, 11s. 6d.; 300 G. B. Kent 5½ per cent. Preference, 15s. 10½d.; 50 Pears' Ordinary, 36s. 4d.

WANTED (subject).—50 Camwal Preference, 4s. 1½d.; 40 Evans Lescher, 101s.; £200 Idris Debenture, 61 per cent.

List of Shares for Sale and Wanted sent free on application. Every effort made to effect business for Buyers or Sellers in all Stocks and Shares. Bankers, London and County and Westminster.

**CHEMIST'S Fittings**.—A large stock Mahogany Drugfittings, Mahogany Plate-glass Wall Cases, Mahogany-top Counters, Dispensing Screens, Plate-glass Counter Cases, Centre Cases, Silent Salesman, suitable for large Store Pharmacy; bargains to clear. Send for particulars, H. Mills, the Chemists' most up-to-date Shopfitter, Show Case Maker, Shop Front Builder (estimates free), 163-5 Old Street, London, E.C.

**CHEAP LINES IN CHEMISTS' FITTINGS**.—Handsome 6-ft. Dispensing-screen, with mirror centre, 90s.; 12-ft. Range Mahogany Drawers, Glass Labels and Knobs, 47; Nest of Counter Drawers, 40s.; Set Plate-glass Shelves, 3 ft., with Bars and Brackets, 30s.; 132 Gold-labelled Shop-rounds, 45; 12 3-lb. Pink Jars, labelled, 40s. R. TOMLINSON & SONS, Headquarters Chemists' Fittings, Bond Street, Birmingham.

**CHEMISTS' Shopfittings**.—Window Enclosures, Showcases, Silent Salesman, Dispensing Screens, Wall-cases, Perfume-cases, Glass-front Serving Counters, Drug Drawers, Counter Drawers, second-hand, shop soiled, at unbeaten prices; you can't do better; 30 years fitting Pharmacies. Send for free estimate, George Cook, The Working Shopfitter, 30 Buttesland Street, East Road (near Old Street Tube Station).

**SECOND-HAND CHEMISTS' FITTINGS**.—We have an exceptionally fine selection of these in all sizes; prices are right and goods are in first-class condition; we shall be pleased to supply particulars and prices. Call or write, RUDDUCK & CO., 262 Old Street, E.C.

**CHEMISTS' SHOPFITTINGS (second-hand)**.—Very large quantity of Wall Fittings, Show-cases, Dispensing Screens, Perfume-cases, etc., etc., to clear for cash; great bargains; call and view, or send sizes of what you require; these goods must be sold. PHILIP JOSEPHS, 93 Old Street, Goswell Road, London, E.C.

**SODA-WATER Trolley**, that makes heavy work light, and on which a boy of 8 can easily convey 3 dozen syphons; will go through any doorway; fitted with patented wheels; dozens in use in all parts of the country; carriage paid 37s. Sole Makers, Arthur & Co., 9 K.P., Cambridge.

S. 092 of 1912.

IN the HIGH COURT of JUSTICE (Chancery Division). Mr. Justice Swinfen Eady. In the Matter of S. F. GOSS, LIMITED and Reduced. And in the Matter of the Companies (Consolidation) Act, 1908.

**NOTICE IS HEREBY GIVEN** that the ORDER of the High Court of Justice (Chancery Division) dated the 29th day of July 1912 CONFIRMING the REDUCTION of the CAPITAL of the above-named Company from £20,000 to £10,000 and the Minute (approved by the Court) showing with respect to the Capital of the Company, as altered, the several particulars required by the above statutes were REGISTERED by the Registrar of Joint Stock Companies on the 7th day of August 1912. And further take notice that the said Minute is in the words and figures following: "The Capital of S. F. Goss Limited and Reduced is £10,000 divided into 2,000 shares of £5 each reduced from £20,000 divided into 2,000 shares of £10 each, and at the time of the registration of this Minute 1570 of the said shares have been issued and the sum of £5 has been and is to be deemed to be paid up on each of them 5 shares have been forfeited and have not been reissued and nothing is to be deemed to be paid in respect of them. The remaining 425 shares have not been issued and nothing has been or is to be deemed to be paid up in respect thereof."

Dated this 9th day of August 1912.

EDGAR MORRIS, 81 Park Street, Grosvenor Square, W.  
Solicitor for the Company.

**RADIUM.**—The Proprietors of British Letters Patent No. 19820 of 1909 are prepared to Sell, or License British Manufacturers to work in Great Britain, this Patent; it relates to a process for obtaining Radium Salts or Compounds and Substances containing large proportions of Radium, and also covers Manufacturing Pharmaceutical Preparations with the products obtained by this process.

Address, BOULT, WADE & TENNANT,  
Chartered Patent Agents,  
111/112 Hatton Garden,  
London, E.C.

**SCHEDULE OF POISONS.**—We have reprinted our card containing the Schedule of Poisons according to the Poisons and Pharmacy Act, 1908, with a supplementary list of poisons prepared by our editorial staff; it also includes concise statements in regard to the law as to the sale of agricultural and horticultural poisons, mineral acids, soluble oxalates, and liquid ammonia. Copies of the card can be obtained from our office, 42 Cannon Street, London, E.C., at 4d. each, post free, or 3s. per dozen.

#### To CHEMISTS' ASSISTANTS and EMPLOYEES and DISPENSERS in Hospitals, &c. (MALE and FEMALE).

Are you aware that the **CHEMISTS' FRIENDLY SOCIETY** is approved for the purposes of the National Insurance Act, and if so have you joined? Every member is invited to secure another. Union is strength! Forms from the MANAGER, 194 ST. VINCENT STREET, GLASGOW.

### UP-TO-DATE IDEAS

in Advertising, new Specialities and Window Shows are my Speciality, and are essential to the Pharmacist. Send for copy of Booklet, "How to Increase Your Business," explaining my methods, post free Pharmacists only. A M.P.S. writes: "I like your new idea in advertising, it is entirely out of the ordinary, and will appeal to the public."

BILLYARD ALLISON, Pharmacist & Business Specialist, RETFORD.

#### 146 HAIR BRUSHES IN 6 WEEKS.

A client writes, Aug. 13, 1912: "My usual sale of Hair Brushes is two a month. I followed your illustrated window show, spent 4/- on window tickets and sold 146 so far in 6 weeks, from 10/- to 6/-." This is the kind of testimonial I constantly receive from clients following the B.S. System of Increasing Chemists' Businesses. If you need assistance get mine, original & best. Booklet free.

BERNARD SLACK, 9 King St., Wolverhampton. Nat. Tel. 581.

### SHOPS ACT, 1912.

**THE** Section 4 notice-card (size 14 in. by 11 in.) required by chemists who serve customers with medicines and medical and surgical appliances after 1 p.m. on early-closing days can be obtained from the offices of the C. & D., 42 Cannon Street, London, E.C., for 3s. 6d. per dozen, or 8d. for two delivered free.

## EXCHANGE COLUMN

One halfpenny per word with name and address. One penny per word if we register the address and attach a number.

No advertisement inserted for less than 6d.

### FOR DISPOSAL.

### BOOKS AND PERIODICALS.

"MEDICAL DIRECTORY," 1912, new; 6s. 6d. post free.  
"J. C. D.," 23 North Audley Street, London, W.

### OPTICAL AND PHOTOGRAPHIC.

MICROSCOPE, Leitz, perfect condition; cost £10; what offers?  
ROBERTS, 328 Dickinson Road, Manchester.

### PROPRIETARY ARTICLES.

WHAT offers for 128 2s. 9d. Warburg's tincture, 39 2s. 9d. cicla?  
257/450, Office of this Paper.  
SALE or exchange, 1 doz. hæmatogen, 1 doz. pinoxap, 1 doz. sirolin. 124/35, Office of this Paper.

### MISCELLANEOUS.

THREE Century thermal bath cabinets, quite new; what offers?  
ROBERTS, 328 Dickinson Road, Manchester.  
DISPENSING-SCREEN, mahogany, 7 ft. 4 in. long, marble front; bargain; refitting; room wanted. MILNE, Trinity, Edinburgh.

### WANTED.

EUREKA tablet-machine. 122/25, Office of this Paper.  
WANTED, No. 3 folding pocket Kodack. GWINNE, Chemist, Liscard.  
WANTED, circular outside gas lamp and bracket, good condition. Price to HAYNES, Honiton, Devon.  
RECIPE wanted for an effectual application to deaden sensitiveness of toe before removing painful corns. 121/21, Office of this Paper.  
OPTICAL books; Minor, Major, Chemists' books; send prepaid for valuation; cash offers per return. GOWER, Bookbinder, Walsley, Liverpool.  
MIXING and sifting machine for hand use, small size; "Gardners" or "Comet" preferred. Description and price, 40 Smith Street, Oldham.

### THE EXCHANGE COLUMN.

#### TO BUYERS AND SELLERS.

We take every care to ensure that proprietary and other goods advertised in this column are genuine surplus stock of reputable persons in business, and are compelled to refuse advertisements sent by those who, when occasion requires, decline to satisfy reasonable inquiries as to their bona-fides.

We again call the attention of those who use this column for the sale or purchase of goods to the desirability of using our Deposit System. Some forward goods before they receive money for them, and others forward money to advertisers before they have even seen the goods. Disappointment in such circumstances is bound to happen now and then, and it is to prevent this, as well as to check fraud, that our Deposit System was instituted.

The buyer sends us the money for the goods, and when we hear from him that they are satisfactory, and not till then, we hand over the money to the seller. A commission of 6d. is charged by us on any transaction of 3l. or less, and 1s. if above that amount. The commission is payable by the buyer, and should be included in the money sent to us. All Cheques and Postal Orders should be made payable to "Edward Halse," and crossed "Martin's Bank, Ltd."



## TRADE-MARKS.

Objections to the registration of any of the undermentioned applications must be stated on Form T.M. No. 7 (obtainable at Money Order Offices for £1) and lodged with Mr. Temple Franks, Comptroller-General, Patents Office, 25 Southampton Buildings, Chancery Lane, London, W.C., within one month of the dates mentioned.

The figures in parentheses refer to the classes in which the marks are desired.

(From the "Trade-marks Journal," July 2/1912.)

- "UNITOX"; for meat-extracts (42). By the Scottish Co-operative Wholesale Society, Ltd., 95 Morrison Street, Glasgow. 343,070.
- "VROMASITRA"; for summer-drink powders (42). By Clarke, Niekolls & Coombs, Ltd., Wallis Road, Victoria Park, London. 343,135.
- "DUZIT"; for goods (47). and label device with word "FRUTOL"; for perfumery (48). By Lever Bros., Ltd., Port Sunlight, Cheshire. 342,516, 342,953.
- "WYRO"; for all goods (47 and 48). By the New Hydro-leine Co., Ltd., Castle Soap-works, Ashby-de-la-Zouch, Leicestershire. 343,440/1.
- "DANDRIFUGE"; for perfumery, etc. (48). By P. S. F. Tensfeldt, 112 Princes Street, Edinburgh. 342,296.
- "PINOLENE"; for perfumery, etc. (48). By L. H. M. Hempel, 37 Sloane Street, London, S.W. 342,460.
- "SHAVOMEAL"; for shaving-soap (48). By Breidenbach & Co., 43 Greek Street, Soho Square, London, W. 343,065.
- "STEELENE"; for a hair-preparation (48). By H. Sternheim, 23 Strype Street, Bishopsgate, London, E.C. 343,393.

(From the "Trade-marks Journal," July 31, 1912.)

- "TRYPOSIFROL"; for all goods (1 and 3). By Actien-Gesellschaft für Anilin Fabrikation, An der Treptower Brücke, Berlin. 343,753/4.
- "CAIBO"; for a disinfectant (2). By C. Williams, 2 Canonbury Square, London, N. 343,320.
- Sketch of Imp on hand with words "THE LITTLE IMP THAT DRAWS"; for a medicated salve (3). By J. Taylor, Garstang Farm Cottage, Heapey, near Chorley, Lanes. 342,560.
- "NEOVARSAN" and "ASPASAN"; for all goods (3). By Meister, Lucius & Brünig, Hoechst a/Main, Germany. 341,746, 343,268.
- Device of clouds, etc., with words "AERIAL MEDICATION FOR EAR, NOSE, THROAT, AND LUNG DISEASES" ("Aerial medication" disclaimed); for lotions for use in injectors (3), and for a non-medicated air mediator and injector (11). By H. C. Payne, 56 Ludgate Hill, London, E.C. 342,829/30.
- Cross-shaped device of word "DY-EA-TA" with "Marney & Sons" in centre and stars in corners; for a digestive tonic (3). By Marney & Sons, 18 Harold Road, Sutton, Surrey. 342,984.
- "ASPAD" on oblong label; for medicated skin-preparations (3). By F. S. Darkin and A. H. B. T. Ponsonby, Langrish House, Meon Valley Road, nr. Petersfield, Hants. 343,044.
- Picture of sparkling gem with word "BRILLIANT," and device of shield with word "GOUDA" ("Gouda" disclaimed); for petroleum-jelly, glycerin, etc. (3). By Koninklijke Stearine Kaarsenfabriek Gouda, Blecker-skade 47, Gouda, Holland. 343,046, 342,048.
- "WINCARO," for chemicals (3), and "WINOCARO," for chemicals (3) and food-substances (42). By Coleman & Co., Ltd., Norwich. 343,223, 343,225/6.
- "AIDESAN"; for all goods (3). By the International Chemical Co., 72 Fleet Street, London, E.C. 343,323.
- "DIGIFOLINE"; for medicinal chemicals (3). By Society of Chemical Industry in Basle, 141 Klybeckstrasse, Basle, Switzerland. 343,703.
- "WHITE HEATHER"; for non-medicated surgical instruments, etc. (11). By Boot's Pure Drug Co., Ltd., 37 Station Street, Nottingham. 343,574.
- "MOSANA"; for sanitary towels (11). By Arnold & Sons, 6 Giltspur Street, London, E.C. 343,747.
- "GAMMALA"; for food-substances (42). By Edward Fison, Ltd., Stoke Bridge Maltings, Bridge Street, Ipswich. 342,701.
- "NATAN"; for a food-preservative (42). By F. Jahn & Co., Ltd., 16 London Street, London, E.C. 343,353.
- "TRANSPIROL"; for perfumery, etc. (48). By E. Schäffer, 61 Rosenthalerstrasse, Berlin. 342,967.

"ALLACITE," for a dry shampoo (48); "BORANIUM," for a hair-tonic (48); "CLEMINITE," for toilet-powder (48); "COLLIANDUM," for rouge (48); "PERGOL," for a powder for destroying the odour of perspiration (48). By Dearborn, Ltd., 32 and 34 Theobald's Road, London, W.C. 342,515/6, 343,518/9, 343,522.

"ALZA"; for all toilet articles (48). By F. B. Ratchford, 125 Burton Road, West Didsbury, Lanes. 343,589.

"WRINKOLA"; for a skin-preparation (48). By the Nesyob Chemical Co., 11 Florence Street, Islington, London, N. 343,722.

"COO-EE"; for infants' feeding-bottles (50). By J. Braunstein, 12 Hilbury Road, Upper Tooting, London. 343,529.

(From the "Trade-marks Journal," August 7, 1912.)

- "FUELOID"; for a chemical compound for mixing with coal (1). By D. J. Brewer, 13 Talfourd Place, Peckham, London, S.E. 343,680.
- "SAFRATROP" and "TRYPTOTHAN," for all goods (1 and 3), and "SOLVAROM," for all goods (1 and 48). By Actien-Gesellschaft für Anilin Fabrikation, An der Treptower Brücke, Berlin. 343,873/4, 343,875/6, 344,119/20.
- "ORMEX"; for veterinary medicines (2). By T. Harley, 29 High Street, Perth. 341,012.
- "RESINOL"; for a veterinary ointment (2). By The Resinol Chemical Co., 517 West Lombard Street, Baltimore, U.S.A. 342,742.
- "VERMICUTE"; for a veterinary medicine (2). By H. C. Hanrott, 82 Stamford Brook Road, Hammersmith, London, S.W. 342,883.
- "WORMOLETTES"; for chemicals (2). By W. Gray & Son, 2 Market Hall, Rothwell, Northants. 342,933.
- "VERAX"; for sanitary preparations (2). By W. C. Hebdon, Albany Works, Winding Road, Halifax. 343,576.
- "KILMO"; for chemicals (2). By W. A. Wayland & Co., Ltd., U.K. Works, Gosterwood Street, Deptford, S.E. 343,881.
- "SOKIAL" "CHALKOTYL," and "LECUTYL"; for medicinal chemicals (3). By The Bayer Co., Ltd., 20 Booth Street, Manchester. 341,022, 343,870/1.
- Monogram "G. B. A."; for catarrh-pills (3). By G. B. Ardito, 219 Willow Avenue, Hoboken, New Jersey, U.S.A. 341,352.
- "MAMMIN"; for all goods (3). By Professor Dr. V. Poehl & Söhne St. Petersburg abt Deutschland, 45 Friedrichstrasse, Berlin. 342,358.
- "MOMSKI"; for effervescing salines (3). By W. Hill, 8 Watson Street, Glasgow. 343,549.
- "ESTORA"; for all goods (3). By J. Weber, 132 Charing Cross Road, London, W.C. 343,682.
- "NOSTROLINE"; for medicinal chemicals (3). By H. E. Matthews, 30 The Mall, Clifton, Bristol. 343,791.
- Circular label device including word "PERSPI-NO" and picture of lady; for a toilet-powder (48). By Perspo Co., 2715 Lincoln Avenue, Chicago, Ill., U.S.A. 343,465.

## Athletics and Sport.

MAY & BAKER C.C. v. EVANS SONS LESCHER & WEBB C.C.—Played at Earlsfield on August 2 and won by the first-named by 67 runs to 47.

ALLENBURYS SECOND C.C. v. LEYSIAN MISSION C.C.—Played at The Elms, Walthamstow, on August 2, and won by the Mission by 98 to 76 runs.

EDINBURGH CHEMISTS' GOLF CLUB.—In the final of the Hole-and-Hole competition for the "T. & H. Smith" Cup, Mr. Geo. Baxter beat Mr. A. J. Clark, the semi-finalists being Messrs. W. Gibb and Chas. Stewart.

THE CARTWRIGHT ATHLETIC CLUB was formed recently at a meeting of the employés of Messrs. W. B. Cartwright, Ltd., Rawdon, arrangements having been made for cricket, football, and tennis. Two fields adjoining the works, which are the property of the firm, allow of dinner-hour practice.

ALLENBURYS C.C.—A League record was made for a first-wicket stand in the match with Stevenson & Howell C.C. at The Elms, Walthamstow, on July 20, Williamson (57 not out) and Porter (21) scoring 70 runs before being parted. The match ended in a win for the Allenburys by 92 runs for one wicket against 89. Allenburys C.C. gained their sixth consecutive victory on July 27, when they beat Burgoyne, Burdighes C.C. on the above ground by 118 runs to 36. They have only to win one of the remaining matches to secure the championship.

## Home Study for the Minor.

By a Pharmaceutical Chemist.

THE question, "How to pass the Minor?" has perhaps been asked as often as any connected with pharmacy, this examination being the lode star of every apprentice. It is an astonishing fact that over fifty per cent. of the students who turn up at the various schools of pharmacy to enter upon their study for the Minor examination have no previous training of any kind, except whatever dispensing experience they may have picked up during apprenticeship, and this is often of limited character. Long hours and lack of educational facilities are not sufficient reasons for an apprentice to totally neglect his studies. Even a rudimentary knowledge of chemistry is of great value when serious study has to be considered. However, practical work is of more value than hours of theory, and any apprentice can easily fit up a reagent case like that described in this year's Summer Number of *THE CHEMIST AND DRUGGIST* (index folio 165). Bottling-wire can be used as a substitute for platinum, while tap-water in cases of necessity may replace distilled water if reservations be made regarding calcium, chlorides, etc. Almost any small text-book on practical chemistry can be used in studying dry tests and the formation of precipitates. The reasons for the various reactions lead naturally to inquiry as to their cause; thus a start as regards knowledge of the theoretical side is obtained in the best manner possible. After a few more tests on acid radicals, the "group" can be studied, leading to testing for a simple unknown salt, excluding phosphates at first. Then double salts may be tackled, leaving zinc, nickel, manganese, and cobalt out if iron, aluminium, or chromium are included. On becoming more expert, entry should be made for the *C. & D.* analytical tournament in connection with the Student's Corner. This is a fine test of one's knowledge, the small quantity of salt usually containing three bases and three acids, making the test a very exacting one. This should not deter the student in any way, as it is worth entering for the splendid advice and useful tips which appear when the results are published. The writer, with a simple home outfit, carried off the first prize on two occasions, thus showing that a well-fitted laboratory is not necessary for carrying out practical chemistry. With a small balance (one may be purchased cheaply second-hand); or even a good pair of dispensing-scales, simple volumetric analysis may be conducted. A burette and pipette are the other necessities. A little practical advice from the qualified assistant, if he is not too "rusty," will go a long way towards mastering perhaps the most difficult side of the practical work.

In regard to theoretical chemistry, a lot of time should not be spent on the organic side of the subject, as a competent teacher will explain more organic chemistry in a lesson than a novice could absorb by many hours' reading. The inorganic chemicals of the British Pharmacopoeia make an admirable basis for commencing home study of the theory of chemistry. Dispensing has in many cases been sadly neglected; but this is not a matter for home study, but for the apprentice approaching his master for facilities to practise compounding on an experimental scale after business hours. An interesting half-hour can be spent at dusting-time in naming the sources of the various drugs and chemicals in the stock-bottles as they are handled. Any keen student can soon make an inexpensive materia medica collection. Thus, elementary botany can be started with a simple text-book; while the acquaintance of any local authority on field-botany is worth cultivating. The subject soon grows on one after the first impression of difficulty is worn off. There is no doubt that the importance of a modicum of home study is not realised. It generally means less time at college, with consequent saving of money, and it makes the Minor something to be looked forward to rather than a thing to be dreaded.

## NEW BOOKS.

Any of these books printed in the United Kingdom can be supplied, at the published price, to "C. & D." subscribers on application (with remittance) to the Publisher, 42 Cannon Street, London, E.C. These notes do not exclude subsequent reviews.

- Cantlie, J. *British Red Cross Society First-aid Manual*, No. 1. 12mo. Pp. 236. 1s. net. (Cassell.)
- Collinge, W. E. *Manual of Injurious Insects*. 8vo. Pp. 288. 12s. 6d. net. (Dulau.)
- Coward, H. F., and Perkins, W. H. *Exercises in Chemical Calculation*.  $7\frac{1}{2} \times 4\frac{3}{4}$ . Pp. 160. 2s. 6d. net. (E. Arnold.)
- Fischer, G. *Local Anæsthesia in Dentistry*. Ryl. 8vo. 18s. net. (H. Kimpton.)
- Fleury, P. *Preparation and Uses of White Zinc Paints*.  $7\frac{1}{2} \times 4\frac{3}{4}$ . Pp. 278. 6s. net. (Scott, Greenwood.)
- Grant, J. *Chemistry of Breadmaking*.  $7\frac{1}{2} \times 4\frac{3}{4}$ . Pp. 232. 5s. net. (E. Arnold.)
- Hall, C. A. *How to Use the Microscope*.  $7\frac{1}{2} \times 5$ . Pp. 96. 1s. 6d. net. (Black.)
- Hewlett, R. T. *Pathology, General and Special*. 3rd edit.  $8\frac{1}{2} \times 5\frac{1}{2}$ . Pp. 624. 10s. 6d. net. (Churchill.)
- Hood, G. F. *Problems in Practical Chemistry for Advanced Students*.  $7\frac{1}{2} \times 5$ . Pp. 272. 5s. (Mills & Boon.)
- Hurrell, H. *Copyright Law and the Copyright Act, 1911. With a Treatise on French Copyright Law, by Maurice Thiry*.  $8\frac{1}{2} \times 5\frac{1}{2}$ . Pp. 142. 3s. 6d. net. (Waterlow.)
- Mastin, J. *The Chemistry, Properties, and Tests of Precious Stones*.  $6\frac{1}{2} \times 4$ . Pp. 122. 2s. 6d. net. (Spon.)
- Mayou, M. S. *Diseases of the Eye*. 2nd edit.  $7\frac{1}{2} \times 4\frac{3}{4}$ . Pp. 322. 5s. net. (Frowde.)
- Minchin, W. C. *Treatment, Prevention, and Cure of Tuberculosis and Lupus with Allyl Sulphide*.  $7\frac{1}{2} \times 5$ . Pp. 100. 3s. 6d. net. (Baillière.)
- Moore, F. J. *Experiments in Organic Chemistry: A Laboratory Manual*. Cr. 8vo. 2s. 6d. net. (Chapman & Hall.)
- Nagel, O. *The Lay-out, Design, and Construction of Chemical and Metallurgical Plants*. 8vo. 8s. 6d. net. (A. F. Bird.)
- O'Connor, D. C. *Treatise on Commercial Pharmacy*. 8vo. 10s. 6d. net. (Lippincott.)
- Parsons, J. H. *Diseases of the Eye: A Manual for Students and Practitioners*. 2nd edit.  $8\frac{1}{2} \times 5\frac{1}{2}$ . Pp. 692. 12s. 6d. net. (Churchill.)
- Phin, J. *The Seven Follies of Science*. 3rd edit. 8vo. 5s. net. (Constable.)
- Pickerill, H. P. *Stomatology in General Practice: A Text-book of Diseases of the Teeth and Mouth*.  $8\frac{1}{2} \times 5\frac{1}{2}$ . Pp. 280. 15s. net. (Frowde.)
- Plimmer, R. H. A. *Chemical Constitution of the Proteins*. Part I., Analysis. 2nd edit. Ryl. 8vo. 5s. 6d. net. (Longmans.)
- Raffety, F. W., ed. *Modern Business Practice: A Comprehensive Practical Guide and Work of Reference for Office, Warehouse, Exchange, and Market*. (In 8 vols.) Vol. I. Illustrated.  $10 \times 7\frac{1}{2}$ . Pp. 228. 7s. 6d. net. (Gresham Publishing Co.)
- Sanderson, E. D. *Insect Pests of Farm, Garden, and Orchard*. 8vo. 12s. 6d. net. (Chapman & Hall.)
- Sibley, W. K. *Treatment of Diseases of the Skin*.  $7\frac{1}{2} \times 4\frac{3}{4}$ . Pp. 288. 5s. net. (E. Arnold.)
- Smith, E. F. *Electro-analysis*. 5th edit. Cr. 8vo. 10s. 6d. net. (K. Paul.)
- Soddy, Frederick. *Chemistry of the Radio-elements*. 8vo. 2s. 6d. net. (Longmans.)
- Thomson, A. *Anatomy of the Human Eye: as illustrated by Enlarged Stereoscopic Photographs*. In box  $11\frac{1}{2} \times 7\frac{1}{2}$ . 42s. net. (Clarendon Press: Frowde.)
- Turner, A. L., and Porter, W. G. *Skiagraphy of the Accessory Nasal Sinuses*.  $11\frac{1}{2} \times 9$ . Pp. 58, and plates. 10s. 6d. net. (W. Green.)
- Wall, E. J. *Dictionary of Photography*. 9th edit.  $7\frac{1}{2} \times 4\frac{3}{4}$ . Pp. 742. 7s. 6d. net. (Hazell.)
- Wallentin, S. G. *Introduction to Scientific German*. Cr. 8vo. 3s. 6d. (Harrap.)
- Whitla, W. *Dictionary of Treatment*. 5th edit.  $7\frac{1}{2} \times 4\frac{3}{4}$ . Pp. 1214. 16s. net. (Baillière.)
- Wright, H. *Hevea Brasiliensis, or Para Rubber: Its Botany, Cultivation, Chemistry, and Diseases*. 4th edit.  $10 \times 6\frac{1}{2}$ . Pp. 562. 15s. net. (Maclaren.)



# BRUNNER, MOND & Co.'s

Alkali  
Products.



Crescent  
Brand.

**These products are made by the Ammonia Process, and are distinguished from others by their great purity.**

**Bicarbonate  
of  
Soda.**

**This Bicarbonate answers all the requirements of the British Pharmacopœia.** It is a pure, refined, and recrystallised salt, particularly free from metals or any base other than soda. This sodium bicarbonate is specially suitable for the preparation of granular effervescent preparations and salines, seidlitz powders and baking powders, and is well adapted for other medicinal and domestic purposes. It is the purest and cheapest sodium bicarbonate made.

**Concentrated  
Crystal  
Soda.**

This sodium compound (sodium sesquicarbonate) is a variety of carbonate of soda in small silky crystals, containing much less water than ordinary washing soda; 1 lb. of it does the work of 2 lbs. of washing soda. Concentrated crystal soda is excellently suited for chemists' trade; they can make a speciality of it, and it is also suited for making water-softeners, brush powders, hair-wash powders, and the like.

**Pure Alkali.**  
58 Degrees.

A dry, white powder: dissolves quickly and easily in water, making an excellent detergent for use by printers, bleachers, dyers, and for bottle washing. Is nearly equal to 99 per cent. carbonate of soda; is much used by glass, paper, and soap makers. The best alkali for soap powders and washing powders.

## Pure Soda Crystals Caustic Soda.

Manufactured from pure Carbonate of Soda, and supplied of all degrees of strength.

## Bleaching Powder.

## Carbonate of Ammonia (Lump and Powder).

Retailers can obtain these products through any Wholesale house by specifying Brunner, Mond & Co.'s "Crescent" Brand. The Manufacturers supply wholesale quantities only, and will quote on application to

**BRUNNER MOND & CO., LIMITED, NORTHWICH, CHESHIRE.**

Printed for the Proprietors by SPOTTISWOODE & CO. LTD., New-street Square: and Published by the Proprietors at 42 Cannon Street, in the City of London.—August 17 1912.